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FINAL REPORT
STUDY OF THE PROBLEMS ASSOCIATED WITH
RELIANCE ON CIVILIAN MEDICAL MANPOWER
AND NON-DOD FACILITIES
DURING PERIODS OF NATIONAL
EMERGENCY, MOBILIZATION, AND WAR - VOLUME I

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(HEALTH AFFAIRS)



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Prepared for:

Office of Assistant Secretary of Defense
(Health Affairs)

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RELIANCE ON CIVILIAN MEDICAL MANPOWER
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DURING PERIODS OF NATIONAL
EMERGENCY, MOBILIZATION, AND WAR,

Volume I

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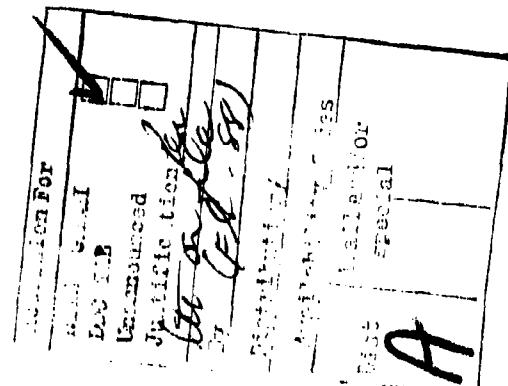
FOREWORD

This report presents the findings and recommendations of a project undertaken by Maximus, Inc., to assess the facility and manpower capabilities of the civilian health care sector to support the Department of Defense in time of war. For several years, Defense health program guidance has stipulated that "...wartime requirements...be met to the extent possible by civilian...manpower and by non-Defense...facilities." However, detailed planning about how to use the civilian health care sector in time of war had never been comprehensively examined.

Specifically, this study presents an assessment of the extent to which DoD can legally and realistically rely on non-DoD civilian medical manpower and facilities in time of war; develops, tests and evaluates alternative linkages with civilian health resources; recommends establishment of a Civilian-Military Contingency Hospital System; and presents a proposed implementation plan, in the form of a proposed DoD directive, to formalize and, if necessary, operationalize, DoD use of civilian medical resources to provide treatment for uniformed Service personnel in the event of mobilization.

The body of the report is contained in Volume I. Appendices are in Volume II. Those wishing to have additional information or to comment on the report should contact Lieutenant Colonel William M. Sandidge, Deputy Director, National Security Planning, at (202) 694-4705.

John E. Murphy
John E. Murphy
Colonel, USAF, MSC
Director, Office of Planning & Policy Analysis



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EXECUTIVE SUMMARY AND RECOMMENDATIONS

EXECUTIVE SUMMARY

Within the past seventy-five years, the United States has engaged in four armed conflicts abroad. These conflicts generated various levels of need for medical services in support of U.S. military forces. In all four conflicts, however, there was time for a build up so that the relatively small number of peacetime military medical support units could be expanded for war. A relatively lengthy mobilization enabled medical units to expand and hospitals to be created in conjunction with emerging need.

Future conflicts may not permit such a mobilization process. In a fast-moving wartime scenario, the conflict may be resolved before full mobilization can occur. Existing medical units will have to bear the brunt of large patient loads produced by intense combat and sophisticated weapons technology. At present the capability of military hospitals is limited; this shortage of facilities will be compounded by the requirement for medical personnel both in theater and in CONUS. The result may be a shortfall in capability, which would leave many wounded with less than adequate care.

A number of solutions present themselves. First, the present military system can be enlarged to meet the expected need, but this would be grossly expensive and wasteful, not

only in terms of dollars but of expertise as well. Even a "mothballed" medical system would require a great initial investment, constant monitoring, and periodic, expensive replacements of equipment and supplies. Attention thus shifts to the civilian sector as the DoD Consolidated Guidance directs. Here, one option is simply to trust common sense, patriotism, and National reaction to a great need by calling upon the civilian sector in an emergency or by enacting emergency legislation when the need arises. Though few doubt that the medical community would rally behind the Nation in such circumstances, many lives could be lost. Without an organized system and planned procedures, the patient load would probably not be shared evenly, and chaos from an administrative, and probably medical, perspective might occur.

A more viable alternative is to construct a system which can tap the potential of the civilian sector, preferably without curtailing its activities. If a specified number of civilian sector hospital beds, facilities, and manpower can be assured, Defense medical planners would have a base from which to estimate the residual requirement for facilities and manpower. Presumably, this more realistic added requirement for military medical capability would permit appropriate action to plan for programs and to fill the need.

This study is concerned with various tasks associated with developing a Civilian-Military Contingency Hospital System (CMCHS). The first task was to assess the capabilities

of the private sector in terms of facilities and manpower, since an effective contingency system cannot be created unless the numbers and locations of the medical assets of the Nation are deemed adequate and identified.

From this assessment, the study then identified the extent to which the civilian sector may be relied upon, and developed a method to use this potential in a wartime situation. A number of alternatives were examined and some were tested in the Nifty Nugget Exercises in the Fall, 1978. Finally, a phased implementation plan was designed.

The primary focus of this study was on non-Federal, short-term, large hospitals. All government facilities and all long-term care facilities were excluded either by the prescribed scope of this study or because they were generally found to be inappropriate to military use. (The capabilities of the Veteran's Administration and Public Health Service hospitals are the topics of a separate study.) Privately owned civilian hospitals possess a large capability to treat patients, but much of that capability is in facilities that are too small to be useful, too remote to be practical, or that do not have adequate equipment or staff.

However, a useful and useable number of beds (some 40,000) were identified and located, primarily in the major metropolitan areas of the Northeast and the Upper Midwest. These regions not only possess enough hospitals and beds, but have adequate

medical and support staff as well to make them viable for an emergency system. Furthermore, a sizeable portion of these urban hospital beds are close to air staging facilities, especially in the Northeast and Upper Midwest.

The Nifty Nugget Exercise provided an opportunity to test ideas and parts of the system in a command post exercise. Though the activities were conducted on paper, the results were encouraging. The participants, six civilian hospitals and two Veteran's Administration Medical Centers, were divided equally between Philadelphia and the Tidewater Region of Virginia. All demonstrated a capability to accommodate the caseload presented to them. The local Emergency Medical Services systems expressed confidence in handling local transportation of military patients. All hospitals but one were able to communicate easily and promptly with their military liaison offices. The exception was a facility in which the one representative trained in the system could not participate, and the duty fell to two untrained administrators.

As a result of the Nifty Nugget test, it was concluded that a local Military Medical Liaison Office (MMLO) was more effective than a central office in dealing with and assisting all the hospitals and elements of the system. Further, these MMLO's, staffed by military personnel and familiar with local patient administration matters and military structure and procedure, could more effectively and efficiently handle the many patient

administration and payment matters that would arise. Although a central regulating office, such as ASMRO, must regulate patients to the area in which hospitals are located, this office cannot effectively perform a local liaison function. Rather, patients can be regulated to MMLO areas for final regulation to participating hospitals by the MMLO.

Participation in such a system can be enhanced by a payment system based on usual and customary charges presented by the hospitals and the physicians to the MMLO's for review, approval, and subsequent payment.

In summary, the important assumption underlying this study is that the military need for linked civilian hospital capability is real. The central conclusions are that DoD already possesses adequate authority, that civilian capability and willingness to participate are sufficient, that viable means of linkage and control can be developed, and that such a civilian military contingency hospital system could substantially enhance military medical preparedness.

RECOMMENDATIONS

Based on the assumptions, findings, and conclusions of this study, it is recommended that the Secretary of Defense take the following interrelated actions:

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Recommendation 1: Create and establish a DoD-level office (CMCHS) to organize, implement, and oversee a system of DoD-linked civilian hospitals.

Recommendation 2: Select and create a series of metropolitan area Military Medical Liaison Offices (MMLO's) to interface with participating local civilian hospitals.

Recommendation 3: Create a Civilian-Military Contingency Hospital System (CMCHS) by executing formal contracts and agreements with Willing hospitals.

These recommendations and the implementation plan discussed in Chapter VI of this study are designed to recognize the need for, authorize the existence of, and implement and put in place a formal system for linking civilian hospitals to DoD in time of need. Adoption of these measures will substantially enhance DoD military medical preparedness.

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CHAPTER I
INTRODUCTION

I. INTRODUCTION

A. BACKGROUND AND PURPOSE OF THE STUDY

The Department of Defense health program guidance has stated that "...wartime requirements are to be met to the maximum extent possible by civilian...manpower and by non-Defense...facilities...." This guidance has been in effect for a number of years, but detailed planning about how to use the civilian health sector in time of war has not yet been accomplished, primarily because the need for such planning either was thought not to be urgently required or was simply unrecognized.

Yet, even a quick analysis reveals that marshalling civilian manpower and facilities in wartime is an immense task, calling for an analysis of the civilian health "system," the extent to which civilian hospitals and manpower can reasonably be tapped for wartime use, and the authority that the Department of Defense (DoD) possesses or needs to link with the system. Devising and implementing necessary linkages require not only knowledge of DoD needs and civilian health sector capabilities, but also the assistance and cooperation of the civilian sector and professional organizations.

This study represents an initial step in planning for a system of military-civilian health care linkages. Specifically, its purpose is to examine the relevant data to determine

whether or not a civilian-military contingency hospital system (CMCHS) is viable and, if so, to describe that system and devise an implementation plan for it. A viable contingency hospital system is one that meets DoD needs in an emergency situation, and does not impinge dramatically, if at all, upon the delivery of civilian health care.

B. MAJOR ASSUMPTIONS

As a beginning step in the study, a set of assumptions was developed on which the inquiries and findings of the study were to be based.

First, it was assumed that the United States would be engaged in a limited war which did not involve an attack on United States territory, and that only limited military medical facilities and manpower in the United States (CONUS) would be available for the treatment of casualties. Because of new weapons technology and the wartime scenario, it was assumed that there would be a great number of casualties who could not be fully treated in the theater of operations. The heavy flow of evacuees would severely tax not only the military system, but all Federal sector health facilities, and would thus require the use of civilian facilities and medical manpower.

However, this Civilian-Military Contingency Hospital System (CMCHS) was intended to use only a portion of the facilities and medical manpower in any given civilian hospital, so

that the delivery of civilian health care would not be interrupted or dislocated. To this end, the CMCHS would utilize only those beds (and manpower and other hospital activities) normally accounted for in hospital dispersion. It was also assumed that any combat action would be relatively short and that a suitable arrangement other than CMCHS would be mobilized to treat patients after about 180 days of the conflict.

Several assumptions were also made about the patients and their arrival status. It was assumed that sufficient medical evacuation craft would be available to transport patients from the theater of operations and that, if necessary, some system of domestic redistribution of patients could be created to move patients from air staging or port facilities to the treatment locations. Patient flow, however, might be variable because of combat activities, logistics considerations, or weather conditions. Patients, hopefully, would have received some treatment for their wounds and have been stabilized sufficiently to withstand an intercontinental trip.

Further, it was assumed that the patient mix would consist mainly of surgical patients, followed closely in number by medical and psychiatric cases, with a few drug abuse, burn, and perhaps even some radiation cases.

Although it was recognized that the ultimate effectiveness of the CMCHS will depend upon factors of supply and demand, the assumptions above do not specify a given level of demand.

Rather, they are meant to provide broad considerations under which the contingency system should operate.

C. ORGANIZATION OF THIS REPORT

To accomplish its purpose, the study was divided into a number of specific tasks. A substudy was prepared as a result of each task and is included as a chapter of this report. The first task was an indepth and detailed examination of the civilian health system. This substudy was conducted to determine the capability of the civilian sector to supply the hospital beds and manpower needed in a contingency situation. Current and detailed data on civilian health resources are, at best, limited. Standard reference works, such as Health Resources Statistics published by the Health Resources Administration, the Statistical Abstract of the United States published by the Department of Commerce, and Guide to the Health Care Field and Hospital Statistics published by the American Hospital Association, provide some data, though they are often out of date when published, limited in scope, or simply irrelevant to policy analysis.

Despite these limits, a surprising amount of information is available, and health professional and contingency planners in the Services, in government, in professional organizations, and in the community freely shared their knowledge, views, and experiences to assist in this study. Chapter II is a detailed assessment of the various capabilities of the civilian health

system that would be available in a contingency situation.

The reader interested only in the discussion of the CMCHS should skip directly to Chapter III.

Once the civilian resources available had been analyzed, a model system was developed and tested as part of the Nifty Nugget exercise during October, 1978. This task entailed the creation of a concept for linking military need to civilian capability. Various issues, including bed availability, types and numbers of casualties, air evacuation, patient administration and payment, were raised and discussed with military and governmental officials, hospital administrators, and professional organizations. Much was learned in the process of defining, developing, and testing this prototype CMCHS.

Chapter III briefly describes the model system, some of the options tested, and the results.

Chapter IV describes the recommended configuration of the CMCHS devised as a result of the experience of Nifty Nugget, and our conclusions regarding actual system development. Included in this chapter are such topics as the number of potential CMCHS beds available and their location, our ideas on the organization and control of the system, a concept of operations, a discussion of agreements needed with civilian hospitals, and interagency coordination that will be required.

The authority necessary to implement the CMCHS was examined in some detail as another substudy. Pertinent

statutes, executive orders, regulations, and DoD directives, as well as alternative authorities, were evaluated. It was concluded that DoD presently possesses the required authority to plan for and to implement such a system. These issues are discussed at length in Chapter V.

Chapter VI provides an overview of an implementation plan designed to formalize the system over three years. This plan includes elements to create and authorize the system, organize and staff its key offices, phase-in the solicitation and contractual linkage of participants, train appropriate staffs, and test the CMCHS elements.

Finally, the bibliography lists the many people and source materials that contributed to this study. The Appendices contain draft contracts and informal agreements, a draft DoD Directive, and other pertinent materials.

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CHAPTER II

CAPABILITIES OF THE CIVILIAN HEALTH SYSTEM

II. CAPABILITIES OF THE CIVILIAN HEALTH SYSTEM

A. INTRODUCTION AND OVERVIEW

A viable Civilian-Military Contingency Hospital System (CMCHS) entails the organization and performance of a number of specific tasks in a real world of conflicting aims and priorities, shortages, and constant change. In order to plan for a functional system, the basic capabilities of the present civilian health world must be analyzed to see that requirements of the CMCHS will be available in the appropriate places and times. The basic elements of capabilities reviewed in this substudy are:

- hospitals, available beds, and other capabilities by geographic location;
- medical manpower, both physicians and allied health professionals;
- logistical support systems, which include not only supplies and local transportation, but communications and patient administration as well; and
- payment mechanisms.

All of these elements must be incorporated into the system in a way that satisfies both the civilian and DoD participants.

The civilian health system and its resources reflect the needs and the demands of the civilian population during peacetime. Its organization and control, manpower and facilities, logistical support structure, and funding mechanism represent a long-term evolution which has stressed local autonomy over centralized control. Although this civilian system may not

present an optimal setting in which to develop a contingency system, it does appear capable of meeting potential shortfalls in DoD resources.

A number of key factors must be kept in mind when discussing this system:

• Decentralized Nature of the System

As in most Western nations, the United States civilian health system is decentralized. Most of the authority for deciding how the system's resources will be allocated and utilized rests with the local hospital. Consequently, any contingency system will have to depend on the cooperation of local hospital governing authorities and certain national associations which represent them. A decentralized system increases the difficulty of controlling, in a short period of time and from one central organization, all the resources which may be required. Centralized control may prove impossible, and ineffective if achieved.

• Growing Trend Toward Centralization and Federal Control

Since the 1950's the control of the civilian health system has shifted toward the national level. The Federal Government has increased its control over the system by establishing fiscal payment programs and comprehensive health planning legislation. The future will probably bring some form of national health insurance. Non-Federal centralization has occurred as well, with greater authority and responsibility placed in national organizations such as the American Hospital Association and the American Medical Association.

• Linkages Among Organizations

Increasingly, the organizations that control various portions of the civilian system have linked themselves to one another; no longer do organizations like the American Medical Association operate in isolation. In addition, the

physician has linked himself increasingly to the organizations that will control health care in the future: hospitals, Health Systems Agencies (HSA's), and Professional Standards Review Organizations (PSRO's). These linkages are favorable to a contingency system in that participants in the health systems no longer can afford to take a "hands off" position on anything. With linkages has come some reduction in fear and distrust of anything new.

- Cross-Fertilization of Organizational Personnel

One outcome of the increased linkages among civilian health organizations has been the cross-over of top executives. It has become commonplace for executives to work parts of their careers in Federal, State, and civilian organizations. Seldom does a health executive spend his entire career in one sector, much less one organization. The result is a much more knowledgeable executive, who understands more than one perspective.

- Consensus Among Organizations

Another outcome of the increased linkages among health organizations has been the increased tendency of these organizations to arrive at a consensus. Although they still protect their vested interests, the organizations now realize it may no longer be best to take directly opposing views on all major issues. This trend toward consensus has often pitted non-Federal organizations against Federal and State agencies in a battle to control the resources. This polarization may prove a deterrent to developing a contingency system, especially if the non-Federal organizations decide the contingency system is a further attempt to control their resources.

- Power of the Fiscal Intermediaries

The civilian health system came of age when it had the guarantee of payment for services. This guarantee came from three sources: the Federal Government, Blue Cross/Blue Shield,

and independent insurance companies. Without their financial support and backing, much of the civilian system would not exist. The guarantee of payment for services rendered is a fact of life. The importance of that fact to the contingency system is simply one of degree of participation during peacetime.

- Big Business Orientation of Health Organizations

With the advent of the Medicare and Medicaid programs in 1965, the philanthropic nature of delivering health care receded. Hospitals and other health organizations grew in size and complexity. Philanthropy could no longer afford even a small portion of the increased cost of operating the system. This tends to preclude the probability of organizations participating in the contingency system for patriotism alone. An appeal to participate should be made on sound business and financial reasons. Any approach that runs contrary to that will probably fail.

B. HOSPITALS

1. Number of Hospitals

In 1976 there were 7,082 hospitals and over 1,434 million hospital beds in the United States. These hospitals admitted over 36 million inpatients and 270 million outpatients, and their total expenses were \$55.6 billion, of which nearly three-fifths were payroll expenses. Of all hospitals, 5.4% were Federal hospitals; 10.6% were non-Federal psychiatric hospitals, non-Federal tuberculosis hospitals, or other non-Federal, long-term hospitals; and 84.0% were non-Federal, short-term hospitals. Non-Federal, short-term hospitals numbered 5,956 and accounted for 87% of all hospitals beds, more than 92% of all

inpatient admissions, and over three-quarters of all outpatient visits.¹ It is this last category of hospitals upon which the CMCHS must focus both for the type of care delivered and the number of beds available.

Between 1950 and 1976 the total number of hospitals increased 3.5% as a result of an 18% increase in the number of non-Federal, short-term hospitals and a 30% decrease in the number of other types of hospitals. During these years, the number of non-Federal, short-term hospitals had grown in bed capacity even faster than they had grown in number. While the number of beds in other hospitals dropped by a third between 1950 and 1976, non-Federal, short-term hospitals expanded bed capacity by nearly 40%, although expansion has slowed in recent years with increased regulation of capital expenditures. Because of the growth of health insurance and the inauguration of Medicare and Medicaid, the average daily census in non-Federal, short-term hospitals grew even more rapidly than bed capability during the boom years in the 1960's, and the occupancy rate rose steadily. With increasing utilization controls, however, growth in the average daily census has slowed and the occupancy rate is falling. Despite dropping occupancy rates and the increasing regulation of hospital expenditures, non-Federal, short-term hospitals added 13.3% to their bed capacity between 1970 and 1976. Thus, at present, the 5,956 non-Federal, short-term civilian hospitals have a combined capacity of some 961,000 beds.

2. Number of Hospitals by Ownership

Ownership of hospitals usually takes one of three forms: Federal, State and local governments, and private. Federal hospitals are not the focus of this study and will not be discussed here.

Short-term hospitals owned by State and local governments, although they have expanded in numbers and beds, are not viewed as a source of capability for CMCHS, because of their size and mission. These hospitals have traditionally provided care for the poor, particularly in the inner cities and large urban counties.

Further, State and local government hospitals are not as large as the average non-Federal, nonprofit hospital, having an average of 116 beds compared to an average bed size of 195 for non-Federal, nonprofit. Only thirty percent (30%) of State and local government hospitals had more than 200 beds. In total, State and local government hospitals comprise twenty-six percent (26%) of all hospitals and only fifteen percent (15%) of the total number of hospital beds. Because of their smaller size, many State and local government hospitals have fewer special services than non-Federal, nonprofit hospitals. The only specialized service in which State and local hospitals have a marked lead is in respiratory disease units.

Within the category of privately owned, short-term hospitals, two types exist: profit and nonprofit. The largest privately owned hospitals are nonprofit organizations, controlled by a wide variety of public, private, and religious organizations. Currently, the civilian health system has 3,368 nonprofit, short-term hospitals. In 1976 these hospitals constituted 56% of the non-Federal, short-term hospitals and had 70% of the beds, 72% of the average daily census, and 67% of the outpatient visits.

Most of the largest hospitals in the US are nongovernment, not-for-profit. Of the 347 hospitals with over 500 beds, two-thirds are nongovernment, not-for-profit. Approximately seventy-five percent (75%) of the 1,713 short-term hospitals with more than 200 beds are in this category.

The number of non-Federal, nonprofit hospitals and the number of large hospitals vary by census region. The component States of these regions are listed in Exhibit II-1. The Middle Atlantic, East North Central, and West North Central areas have the largest number of non-Federal, non-profit hospitals. However, the Middle Atlantic, New England, and East North Central areas have a higher proportion of these hospitals in the 200 beds category, as shown in Exhibit II-2.

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Exhibit II-1

THE STATES BY CENSUS REGIONS

<u>NEW ENGLAND</u> (Region 1)	<u>EAST NORTH CENTRAL</u> (Region 4)	<u>WEST SOUTH CENTRAL</u> (Region 7)	<u>MOUNTAIN</u> (Region 8)	<u>PACIFIC</u> (Region 9)
MAINE	MICHIGAN	ARKANSAS	MONTANA	WASHINGTON
NEW HAMPSHIRE	OHIO	LOUISIANA	IDAHO	OREGON
VERMONT	INDIANA	OKLAHOMA	WYOMING	CALIFORNIA
MASSACHUSETTS	ILLINOIS	TEXAS	COLORADO	ALASKA
RHODE ISLAND	WISCONSIN		NEW MEXICO	HAWAII
CONNECTICUT			ARIZONA	
<u>MIDDLE ATLANTIC</u> (Region 2)	<u>EAST SOUTH CENTRAL</u> (Region 5)		UTAH	
NEW YORK	KENTUCKY		NEVADA	
NEW JERSEY	TENNESSEE			
	ALABAMA			
	MISSISSIPPI			
<u>SOUTH ATLANTIC</u> (Region 3)	<u>WEST NORTH CENTRAL</u> (Region 6)			
DELAWARE	MINNESOTA			
MARYLAND	LOUISIANA			
	MISSOURI			
DISTRICT OF COLUMBIA	NORTH DAKOTA			
VIRGINIA	SOUTH DAKOTA			
WEST VIRGINIA	NEBRASKA			
NORTH CAROLINA				
SOUTH CAROLINA				
GEORGIA				
FLORIDA				

Exhibit II-2**NUMBER OF NON-FEDERAL, SHORT-TERM, NONPROFIT
HOSPITALS BY CENSUS REGION**

<u>Census Region</u>	<u>Number of Hospitals (Non-profit)</u>	<u>Percentage of Hospitals Over 200 Beds</u>
New England	240	38%
Middle Atlantic	531	52%
South Atlantic	386	30%
East North Central	709	39%
East South Central	159	18%
West North Central	477	15%
West South Central	275	13%
Mountain	204	23%
Pacific	<u>358</u>	22%
TOTAL	<u>3,339</u>	

Special services, such as intensive care and histopathology lab, generally correlate with hospitals size: the more beds, the greater the possibility of special services or units. Consequently, nongovernment, not-for-profit hospitals provide most of the special services for short-term care, as Exhibit II-3 shows.

The expense of operating nongovernment, not-for-profit hospitals is consistent with the operating costs of other non-Federal, short-term hospitals. By 1980, hospital expenses per patient per day in nonprofit hospitals will probably exceed \$300. These expenses do not usually include the cost of physicians' services.

The second form of privately owned, short-term hospital is the for-profit or proprietary hospital. Although the other types of short-term hospitals have increased in number since 1950, proprietary hospitals have sharply declined. In the last 25 years, the number of proprietary hospitals has decreased from 1,200 to approximately 750, a decrease of some thirty-eight percent (38%). Like State and local government hospitals, proprietary hospitals are generally smaller than nonprofit, non-Federal hospitals, with an average bed size of 101 beds. Only eleven percent (11%) of proprietary hospitals had more than 200 beds. All told, proprietary hospitals represent eleven percent (11%) of the total number

Exhibit II-3

PERCENT OF NON-FEDERAL, SHORT-TERM, NONPROFIT
HOSPITALS HAVING SPECIAL SERVICES BY SPECIAL SERVICE

<u>Service</u>	<u>Percent of Hospitals Having Units/Services (nongovernment, not-for-profit)</u>	<u>Number of Units As a Percent of Total Units/ Services in U.S.</u>
Postoperative Recovery Room	88%	52%
Intensive Care Unit (ICU)	41%	61%
Intensive Care Unit (mixed)	77%	64%
Open-Heart Surgery	13%	78%
Pharmacy with Registered Pharmacist	74%	59%
X-ray Therapy	39%	70%
Cobalt Therapy	14%	78%
Radium Therapy	34%	79%
Diagnostic Radioisotope	63%	70%
Therapeutic Radioisotope	33%	74%
Histopathology Lab	63%	69%
Organ Bank	3%	68%
Blood Bank	71%	59%
E.E.G.	56%	59%
Respiratory Therapy	83%	59%
Hemodialysis	16%	66%
Burn Care Unit	3%	56%
Physical Therapy	84%	56%
Occupational Therapy	26%	46%
Rehabilitation Services	8%	57%
Emergency Department	91%	58%
Dental Services	39%	48%
Podiatric Services	19%	45%
Chemical Dependency	10%	39%
Respiratory Disease	2%	22%

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of hospitals in the US and only five percent (5%) of the hospital beds.

For-profit hospitals are less likely to have specialized services than State and local government hospitals, and much less likely than nonprofit hospitals, as Exhibit II-4 demonstrates. In all special units/services categories, for-profit hospitals had fewer hospitals with special units/services than nonprofit hospitals; compared to State and local government hospitals, for-profit hospitals had a greater percentage of hospitals with special units/services in only the following categories: (1) postoperative recovery, (2) intensive care (mixed), (3) pharmacy, (4) diagnostic radicisotope, (5) histopathy lab, (6) EEG, (7) respiratory therapy, and (8) physical therapy.

The expense of operating proprietary hospitals exceeds the cost of any other type of short-term hospital, though the cost difference is extremely small. As noted earlier, until 1976, the cost of operating any type of short-term hospital was about the same on a national basis.

Thus, the non-Federal, privately owned, not-for-profit hospitals constitute the largest single block of hospital beds in the civilian sector, and offer not only a great number of beds, but a wide range of services. The major emphasis of their activities is upon the short-term care that would be

Exhibit 11-4

PERCENT OF NON-FEDERAL, SHORT-TERM, PROPRIETARY
HOSPITALS HAVING SPECIAL SERVICES

<u>Services</u>	<u>Percent of Hospitals Having Units/Services (proprietary)</u>	<u>Number of Units as a Percent of Total Units/ Services in U.S.</u>
Postoperative Recovery	4%	10%
Intensive Care Unit (ICU)	27%	8%
Intensive Care Unit (Mixed)	63%	9%
Open-Heart Surgery	4%	4%
Pharmacy with Registered Pharmacist	69%	9%
X-ray Therapy	22%	7%
Cobalt Therapy	5%	3%
Radium Therapy	10%	4%
Diagnostic Radicisotope	51%	10%
Therapeutic Radicisotope	11%	4%
Histopathology Lab	44%	8%
Organ Bank	*	*
Blood Bank	55%	8%
E.E.G.	47%	9%
Respiratory Therapy	78%	10%
Hemodialysis	6%	5%
Burn Care Unit	10%	3%
Physical Therapy	68%	8%
Occupational Therapy	9%	3%
Rehabilitation Services	*	*
Emergency Department	75%	2%
Dental Services	22%	5%
Podiatric Services	*	*
Chemical Dependency	*	*
Respiratory Disease	*	*

*less than one percent

needed for military patients, and their mission is sufficiently broad that there would be few conflicts or problems in accepting such patients.

3. Utilization of Hospital Beds and Services

The CMCHS is predicated upon the idea that military patients can be treated in civilian hospitals with only a minimal interruption or constraint of the delivery of civilian health care. Even if there are enough beds available, care must be taken in creating such a system to allow only this minimal dislocation; to that end it is important to have some knowledge about the degree to which hospitals use their capabilities.

Admissions to all hospitals in the United States totaled 36,776,000 in 1976, a 99% increase above the number admitted in 1950. This rise is more than double the increase in population between 1950 and 1976. Admissions just to non-Federal, short-term hospitals climbed 104% over the same period, with the growth occurring in a constant upward curve.

While admissions have risen continuously, the average length of stay in all hospitals (long-term as well as short-term) plummeted from almost 25 days in 1950 to less than 12 days in 1976. This primarily reflects the fact that patients requiring long-term care are increasingly being transferred out of hospitals and into nursing homes or extended care facilities. In the same period, the average length of stay

in short-term, non-Federal hospitals declined only slightly—from 8.1 to 7.7 days. The length of stay in these hospitals rose after Medicare was inaugurated and more elderly people began getting hospital care, but since 1969 the length of stay has been slowly falling, presumably because of greater utilization controls. It is noteworthy that the average length of stay varies considerably by area of the country. For example, in the Pacific States the average length of stay in non-Federal, short-term hospitals is 6.5 days, whereas, in the Middle Atlantic States it is 9.3 days.

Since the rise in hospital admissions has been less than the decline in the average length of stay, the number of patient days in all hospitals declined from 3,011 per 1,000 population in 1950 to 2,843 in 1960 to 1,068 in 1976, a decrease of 31% in the last 23 years. However, in non-Federal, short-term hospitals the number of patient days per 1,000 civilian population rose from 900 in 1950 to 977 in 1960 and 1,194 in 1976, an increase of 33% in the last 26 years. In short, although the demand for long-term hospital beds is dropping, the demand for non-Federal, short-term hospital beds has risen.

Occupancy rates vary among different types of hospitals. In 1976 the occupancy rate for Federal hospitals was 80.7%; for non-Federal psychiatric hospitals it was 80.3%; for other non-Federal, long-term hospitals it was 82.1%. For all non-Federal, short-term hospitals the occupancy rate was 74.8%:

for State and local government short-term hospitals, the rate was 69.7%; for proprietary short-term hospitals, 65.9%; and for nongovernment, nonprofit, short-term hospitals, 77.4%. Nonprofit hospitals enjoyed rising occupancy rates until 1969, when increasing utilization controls began to push down both the length of stay and the occupancy rates.

Occupancy rates also vary by hospital size. Among non-Federal, short-term hospitals, those with 6 to 24 beds had an occupancy rate of only 49.8% in 1976, those with 50 to 99 beds had a 66.2% rate; those with 200 to 299 beds had a 77.4% rate; and those with 400 to 499 beds had an 81.3% rate. Thus, in general, the larger a hospital, the higher its occupancy rate. However, size seems to have more impact on occupancy rate among small hospitals than among those with 300 or more beds.

Occupancy in all hospitals also varies greatly from day to day and season to season, and small hospitals in particular cannot have anything approaching a 100% average occupancy rate if they are to be in a position to meet the peaks of demand that occur periodically. Generally, hospitals have their lowest occupancy rates on weekends, over holiday periods, and during the summer.

Finally, occupancy of non-Federal, short-term hospitals varies somewhat by geographic location, the Pacific having the lowest occupancy rates, the Middle Atlantic States having the highest. (See Exhibit II-5.)

Exhibit II-5

OCCUPANCY OF NON-FEDERAL, SHORT-TERM HOSPITALS
BY CENSUS REGION

<u>Census Division</u>	<u>Occupancy Rate</u>
New England	79.4
Middle Atlantic	81.6
South Atlantic	77.3
East North Central	78.3
East South Atlantic	76.3
West North Central	71.6
West South Central	71.6
Mountain	70.1
Pacific	68.8

In general, then, there is a gradually rising demand for hospital beds and a gradually rising occupancy rate in the non-Federal, short-term facilities that are of particular interest to the CMCHS. However, occupancy rates are calculated in a variety of ways and, as noted, these rates vary accordingly from day to day and season to season. It is also a practical impossibility to fill a hospital to 100% of capacity, given problems on admission and discharge procedures, isolation because of communicable diseases, and other factors. It appears, then, that even with relatively high occupancy rates in the larger facilities, the margin of beds needed to make CMCHS viable does exist and, with planning, could be successfully incorporated into a system to support unmet DoD requirements.

4. Specialty Hospitals

The civilian health system has three different types of specialty hospitals: psychiatric, tuberculosis and other respiratory diseases, and general long-term care hospitals. Generally, these specialty hospitals provide long-term care. In the past 25 years, specialty hospitals have declined in total number from 1,343 in 1950 to 746 in 1976, or approximately fifty-six percent (56%). The majority of this change, however, occurred in tuberculosis and other respiratory disease hospitals, which decreased some 1,800% from 398 hospitals to 21.

The available beds in specialty hospitals have also decreased sharply, both in total number and in average beds per specialty hospital. Available beds have decreased 420 thousand in the last 25 years. Average bed size for specialty hospitals is now 458 compared to 568 in 1950.

The availability of specialty services in specialty hospitals depends on the type of hospital. In general, psychiatric and tuberculosis hospitals have very few specialty units beyond those directly relevant to psychiatry and respiratory disease. General specialty hospitals, such as maternity hospitals, childrens' hospitals and EENT hospitals have fewer specialty services than comparably sized nonspecialty hospitals.

The utility of specialty hospitals to a contingency system is questionable. Such hospitals have decreased in number and importance and will probably continue to do so. Long-term general hospitals are so specialized in their care that the utility of personnel would probably be very low unless a triage system could funnel the correct type of patients to these facilities. Because the ownership of these hospitals varies by category (psychiatric/proprietary, TB/State, and general long-term/nonprofit), they do not lend themselves readily to group participation possibilities. However, the traditionally low operating costs and long length of stay make these hospitals attractive sites for rehabilitative care in comparison to short-term hospitals.

5. Large Hospitals

Large hospitals, defined as hospitals with more than 200 beds, comprise twenty-six percent (26%) or 1,374 of the 5,979 non-Federal, short-term hospitals. They possess sixty-three percent (63%) of the total number of short-term beds, seventy percent (70%) of all the personnel, and sixty-one percent (61%) of all fiscal assets. In addition, they have a greater number of specialized hospital services, a higher occupancy rate, a longer average length of stay, and higher costs per bed than smaller hospitals. In sum, as hospitals increase in size, so do all their operating factors.

Given this fact, the inclusion of the larger civilian short-term hospitals into a contingency system has its pros and cons. On the positive side, large hospitals have 1) more beds, 2) more support staff, 3) more skilled staff, 4) more specialized services, and 5) more sophisticated special services. On the negative side, larger hospitals have 1) higher expenses per day, 2) higher administrative costs, 3) longer average length of stay, resulting in a smaller turnover of beds, and 4) a higher occupancy rate, resulting in proportionally fewer available beds. The annual expense per occupied bed in hospitals under 100 beds is sixty percent (60%) of a larger hospital, or approximately \$32,000 per occupied bed, in comparison to \$51,000 in hospitals with more than 500 beds. Thus, economies of scale do not necessarily exist in larger

hospitals. However, the positive factors tend to outweigh the negative ones, making large hospitals an essential part of CMCHS.

6. Teaching Hospitals and Medical Schools

In 1976, 776 of the 7,156 hospitals in the U.S. were members of the Council of Teaching Hospitals of the Association of American Medical Colleges. Thus, only 11% of all hospitals could be classified as full-scale teaching hospitals. However, the percent of hospitals affiliated with medical schools increased from 6% in 1960 to 13% in 1976. Most of these teaching hospitals were large institutions: 73% over 300 beds, 54% over 400 beds, and 34% over 500 beds.

In a sense, the full-scale teaching hospitals can be regarded as the core of our health care system. First, the research undertaken in these institutions generates new medical discoveries which flow to the rest of the system. When students graduate, they take to the health care system the new concepts developed in these core hospitals.

Secondly, teaching hospitals increasingly support community hospitals which have fewer specialized facilities and staff. Teaching hospitals receive patients referred to them from community hospitals, and increasingly formalized referral arrangements have been developed between the two types of hospitals. Teaching hospitals also provide continuing education programs for the staff of nearby community hospitals. Sometimes

arrangements are made for the bigger teaching hospitals to provide consulting services for distant hospitals with limited facilities or staff.

Thus, medical schools and teaching hospitals are important in the implementation of any type of contingency system. Almost all of these hospitals are large and, as discussed above, influential. It is generally felt that the participation of teaching hospitals in a contingency system would probably lead to almost universal participation of the larger (200+ beds) hospitals.

7. Distribution of Hospitals, Hospital Beds and Services by Geographic Location

One of the most significant factors in creating the CMCHS is the location of the hospitals. Present military evacuation plans envision air evacuation of patients from overseas to Air Staging Facilities (ASF) which are located at selected Air Force bases. Thus, in order to minimize the travel time and impact on patient condition, civilian hospitals participating in CMCHS should be within an hour's drive of an air staging facility. If locations near the ASF's are not possible, the participating hospitals must be located close to major airports so that domestic redistribution of patients will entail only a relatively short air and ground trip.

Exhibit II-6 shows the variation in the distribution of hospitals and hospital beds by region. Most of the non-Federal,

Exhibit II-6**NUMBER OF NON-FEDERAL, SHORT-TERM HOSPITALS
AND BEDS BY CENSUS REGION**

<u>Census Region</u>	Number of Non-Federal Short-Term Hospitals (Rank)		<u>Number of Beds (Rank)</u>
New England	265	(9)	51,048 (8)
Middle Atlantic	663	(6)	169,675 (2)
South Atlantic	791	(4)	139,037 (3)
East North Central	921	(1)	188,681 (1)
East South Central	473	(7)	62,882 (7)
West North Central	806	(3)	95,655 (5)
West South Central	846	(2)	92,718 (6)
Mountain	356	(8)	36,877 (9)
Pacific	754	(5)	105,271 (4)

short-term hospitals are located in the East North Central, West South Central, and West North Central States, as noted in Exhibit II-7. However, most hospital beds are located primarily in the Middle Atlantic, East North Central, and South Atlantic States, as shown in Exhibit II-8. This discrepancy occurs because the number of large hospitals does not correlate exactly with the number of hospitals. (See Exhibit II-9.)

This same discrepancy is evident in the distribution of hospitals and hospital beds between metropolitan and nonmetropolitan areas. Although the actual numbers of hospitals in both areas are almost equal (2,944 hospitals in metropolitan versus 2,931 in nonmetropolitan areas), most of the larger non-Federal, short-term hospitals cluster in SMSA's. The average hospital size in metropolitan areas is 236 beds versus 84 beds in nonmetropolitan areas. (See Exhibit II-10.) The map in Exhibit II-11 shows the location of the thirty largest metropolitan areas, most of which are located in the East North Central, Middle Atlantic, and South Atlantic States.

8. Distribution of Specialized Hospital Services

As pointed out in the analysis of hospital ownership, specialized hospital services are most frequently found in non-Federal, short-term hospitals, particularly nonprofit hospitals. The availability of specialized services also varies with the size of the hospital: the larger the hospital, the higher the probability it has both specialized services

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Exhibit II-7

NUMBER OF NON-FEDERAL, SHORT TERM HOSPITAL
BEDS BY CENSUS REGION
(1976)

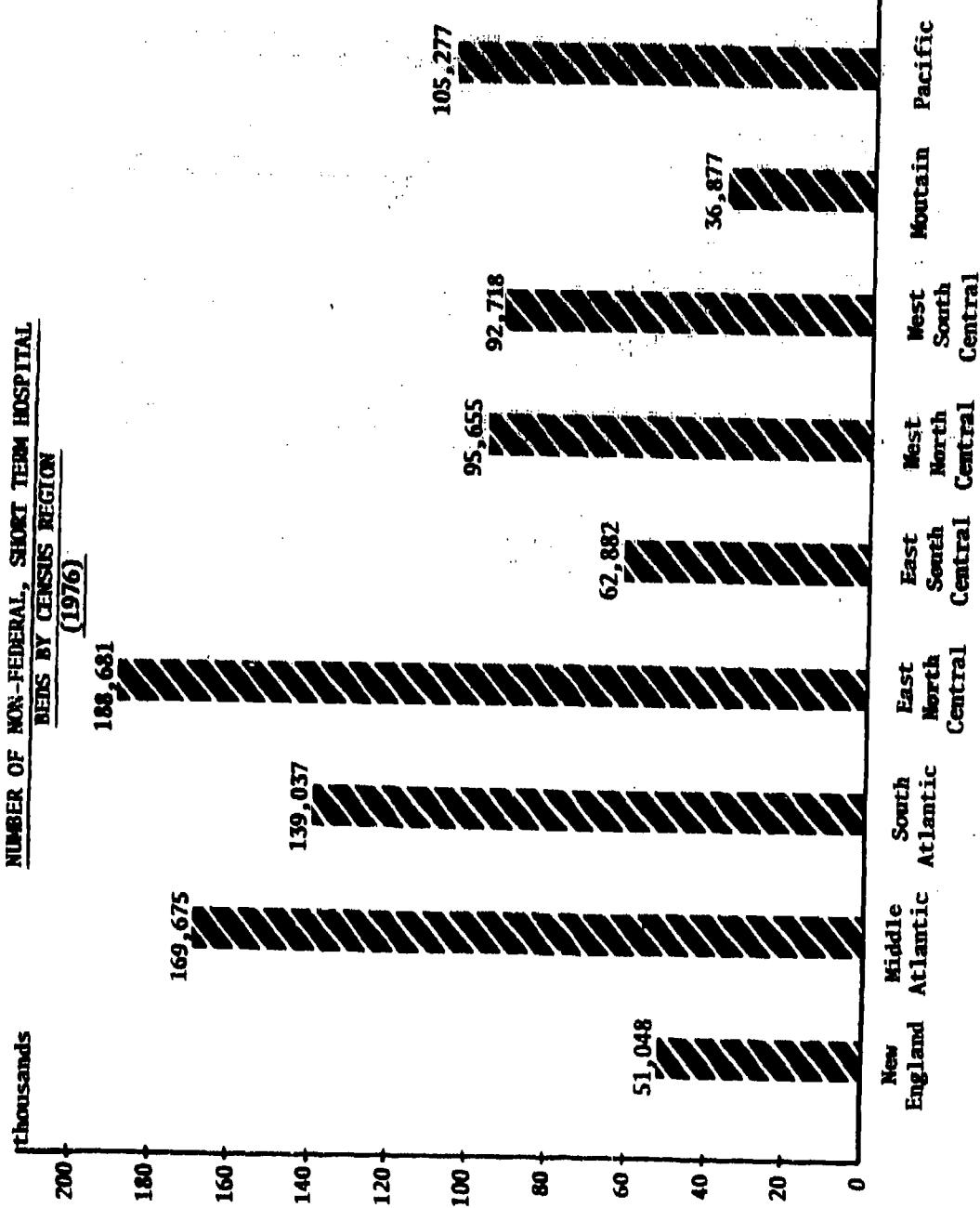


Exhibit II-8

NUMBER OF NON-FEDERAL, SHORT TERM HOSPITALS BY CENSUS REGION
(1976)

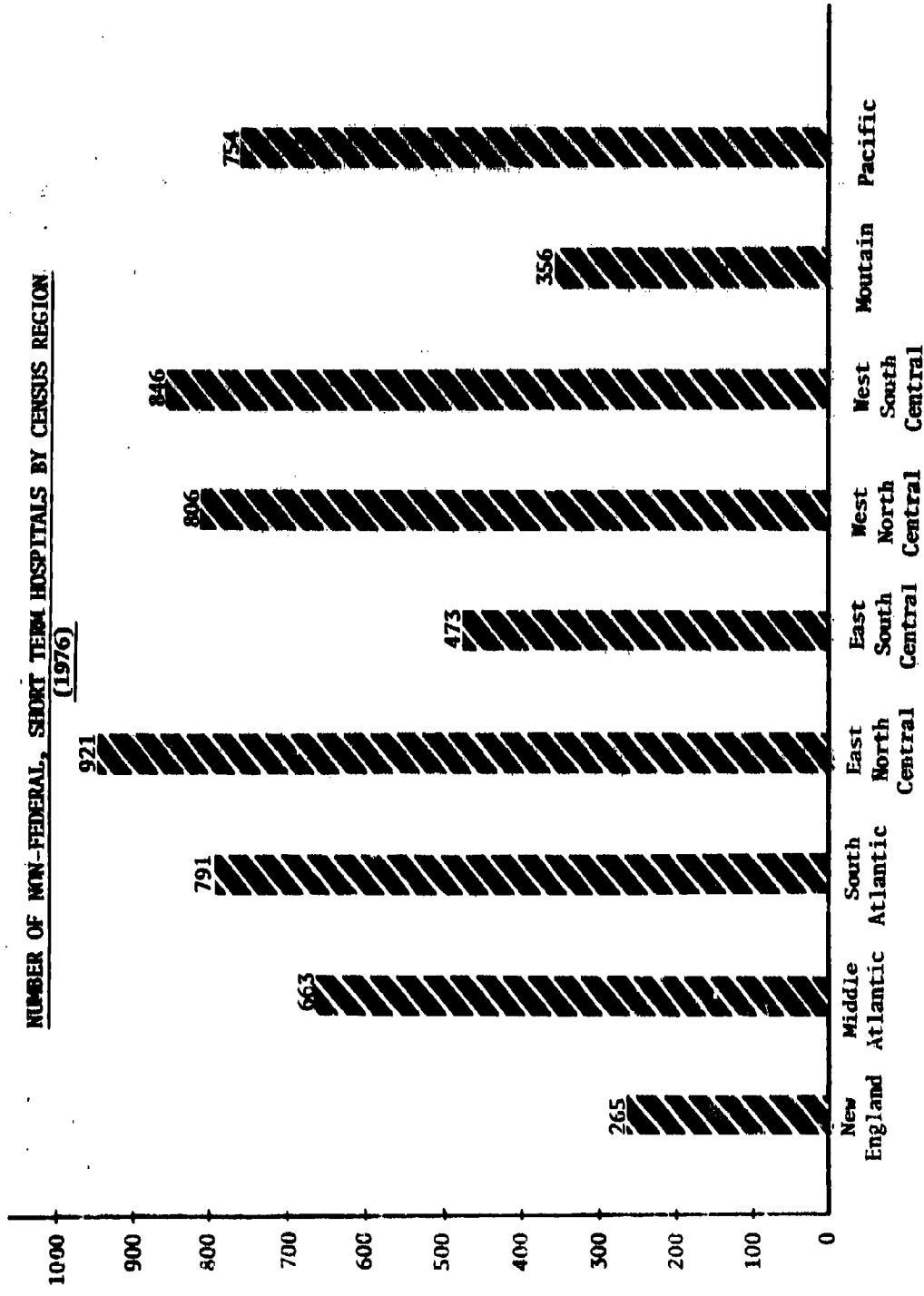


Exhibit II-9

NUMBER OF NON-FEDERAL, SHORT-TERM HOSPITALS
OVER 200 BEDS BY CENSUS REGION

<u>Census Region</u>	<u>Number of Non-Federal Short-Term Hospitals Over 200 Beds</u>	<u>Rank</u>
New England	100	7
Middle Atlantic	344	2
South Atlantic	238	3
East North Central	358	1
East South Central	84	8
West North Central	122	5
West South Central	114	6
Mountain	83	9
Pacific	164	4

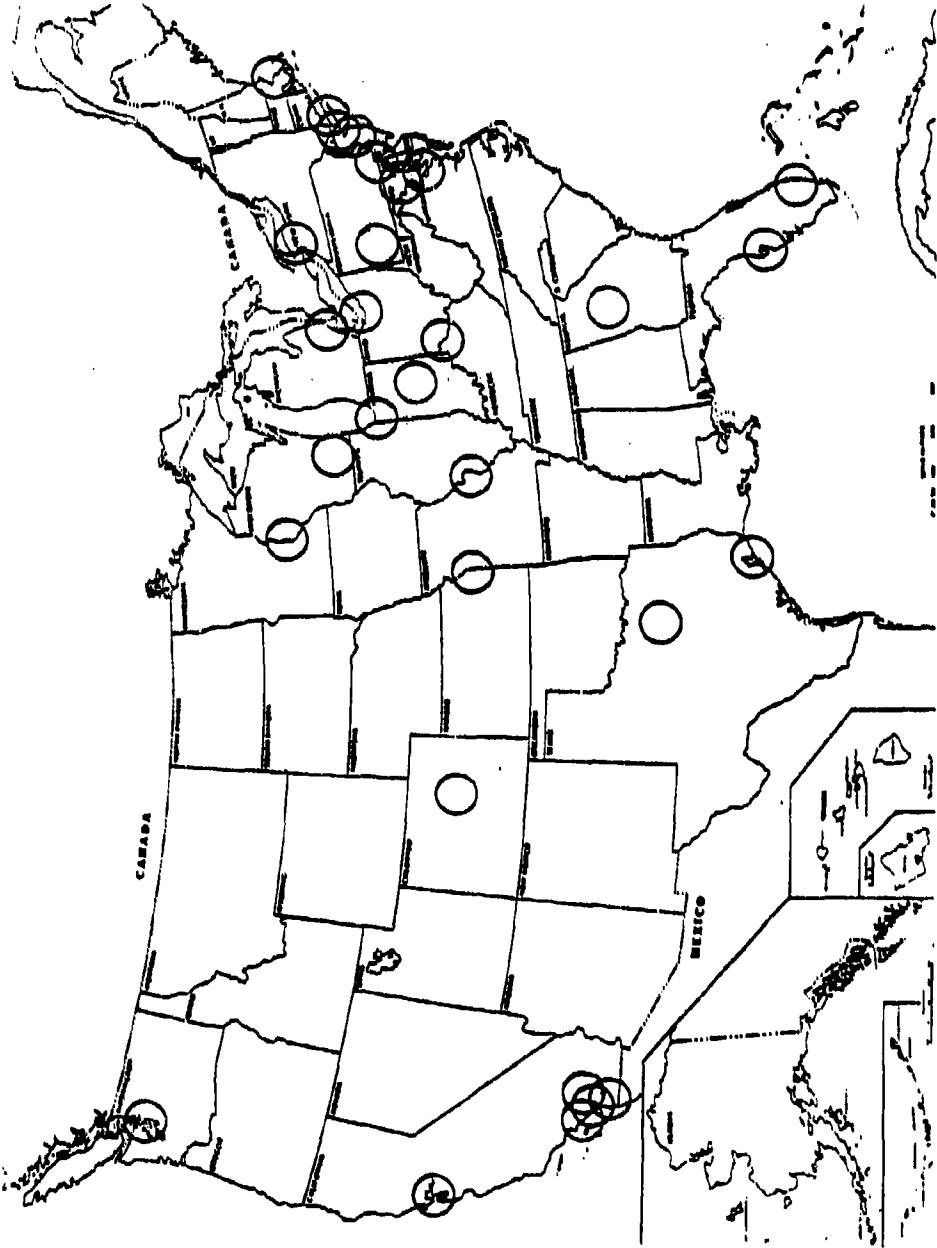
Exhibit II-10

AVERAGE BED SIZE OF METROPOLITAN AND NON-METROPOLITAN
NON-FEDERAL, SHORT-TERM HOSPITALS BY CENSUS REGION

<u>Census Region</u>	<u>Average Size Metro Hospital</u>	<u>Average Size Non-Metro Hospital</u>
New England	257	112
Middle Atlantic	287	142
South Atlantic	247	109
East North Central	273	109
East South Central	230	85
West North Central	284	71
West South Central	175	57
Mountain	232	56
Pacific	167	67

Exhibit II-11

30 LARGEST POPULATION CENTERS



and more sophisticated capabilities in those services. For example, almost all non-Federal, short-term hospitals with 500 or more beds have a basic set of specialized services: post-operative recovery room, intensive care units, full-time registered pharmacist, diagnostic radioisotope, histopathology lab, EEG, inhalation therapy, physical therapy, and emergency department. In comparison, only fifteen percent (15%) of the hospitals with less than 24 beds have all of these special services and only fifty percent (50%) of those hospitals with 50 to 99 beds offer these services.

In any contingency system, the optimal participating hospital should have all the specialized services relevant to treatment of the expected type of patient. Without these special services, a secondary triage would have to occur, possibly delaying treatment. Thus, efforts to attract fully equipped hospitals should focus on hospitals having a minimum of 200 beds located in the East North Central, Middle Atlantic, and South Atlantic States.

C. MANPOWER

1. Introduction

Manpower in the civilian health system includes institutional-based as well as noninstitutional-based personnel. However, reliable data are generally available only on institutional-based manpower, most of it for hospitals.

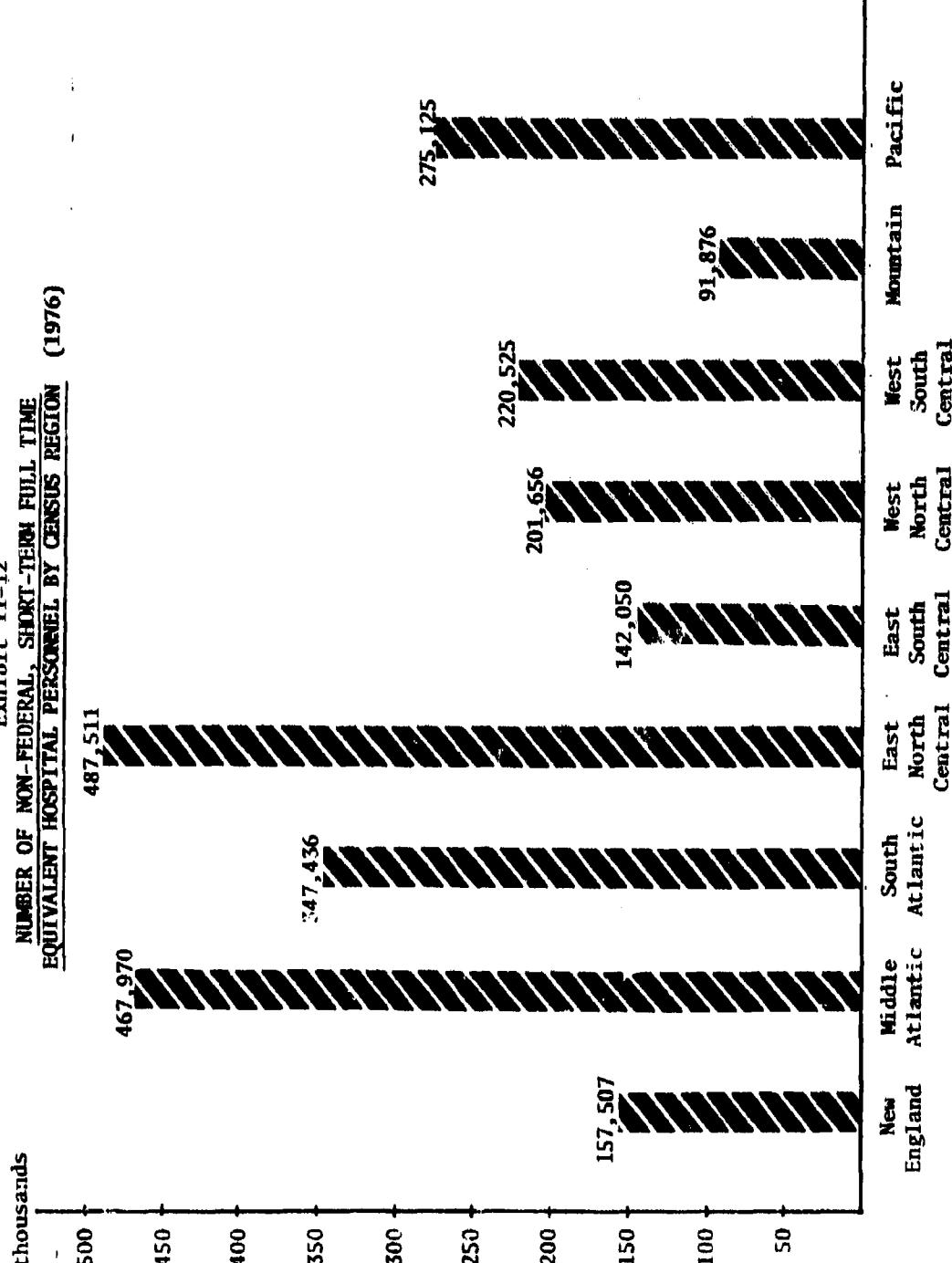
According to Bureau of the Census statistics published in 1976, the estimated number of persons employed within the health field was approximately 4.2 million. Nursing and related nursing services accounted for more than fifty percent (50%) of this number, while physicians constituted about eight percent (8%). The remaining 42% included dentists and other practitioners, pharmacists, administrators, technologists, and assorted service and support personnel. Almost seventy-five percent (75%) of the health occupations work force consisted of females, who traditionally have been excluded from the draft during wartime. The vast majority of the female population was employed in nursing-related occupations.

2. Hospital-Based Personnel

Hospitals employed approximately 3 million persons in 1976, or sixty to sixty-five percent (60-65%) of the total medical work force. The distribution of this hospital work force by census region is shown in Exhibit II-12. The health personnel employed in hospitals were representative of health personnel as a whole, both by type and by distribution. Five percent (5%) of the hospital-based staff were classified as physician-related, fifty-three percent (53%) as nurse-related, nineteen percent (19%) as allied health professional-related, and twenty-three percent (23%) as nonprofessional support.

During 1965-1975, the number of hospital-employed persons increased approximately sixty percent (60%). Assuming a

Exhibit II-12
NUMBER OF NON-FEDERAL, SHORT-TERM FULL TIME
EQUIVALENT HOSPITAL PERSONNEL BY CENSUS REGION (1976)



smaller but continued increase in the decade between 1975-1985, by 1985 hospitals could employ close to five million people.

3. Hospital-Based Physicians

The number of physicians on hospital payrolls doubled in the last decade. A number of factors contributed to this trend, among them the increasing complexity of medical technology and the increasing ability of hospitals to attract physicians. At present, about eight percent (8%) of all physicians work for hospitals.

The majority of physicians who work for hospitals are affiliated with medical schools and large hospitals located in New York City, Boston, Chicago, and Los Angeles. Seventy-one percent (71%) of all hospital-based physicians work in the 662 hospitals affiliated with medical schools. (Only twenty-seven of these hospitals have fewer than 300 beds.) Ninety-four percent (94%) of hospital-based physicians work in hospitals located in metropolitan areas; of these, forty-one percent (41%) work in either New York City, Boston, Chicago, or Los Angeles.

In a contingency system, hospital-based physicians will play an extremely important role. Unlike other types of physicians, they interact daily with complex organizational structures and are tied in one way or another to these structures; they are not independent entrepreneurs. Unfortunately,

many of these physicians are also researchers and/or teachers who tend to congregate in special hospitals in a few major metropolitan areas.

4. Physicians

In the United States, physicians initiate almost all patient care. As such, they are the primary medical resource. In addition, they possess the most critical skills needed to treat patients in wartime.

a. Total Number of Physicians, Federal and Non-Federal

The total number of physicians in 1974 was 379,748 (or 345,607 excluding individuals who were inactive, not classified, or of unknown address). The total number of physicians has increased since World War II at a greater rate than our population. However, the ratio of physicians to population is still relatively low: one physician per 630 persons.²

Of the total number of active physicians, the vast majority (91%) work in non-Federal related positions. Ninety-two percent (92%) of the non-Federal physicians work in direct patient care positions; only eight percent (8%) work in non-patient-care areas, such as medical teaching, administration, research, or other occupations.

One out of twelve physicians (8%) is active in Federal service. Compared to the total physician population, the Federal Government employs a larger percentage

in non-patient-care positions (15%) than the non-Federal sector.

It might prove more beneficial to a contingency system if more physicians were in active Federal positions. Call-up of Federal physicians presumably would involve only reassignment of duties; recruiting or drafting non-Federal physicians involves drastic changes. However, the possibility of physicians shifting to Federal positions seems remote at this time. The military services have had difficulty attracting or retaining physicians without some form of draft. If in the future the total number of physicians increases so that competition for positions becomes difficult, Federal positions might appear more favorable. At present, however, the majority of physicians in any contingency system will have to come from the civilian sector.

b. Growth in the Number of Physicians

Since 1950, the number of physicians has increased approximately 70%. It is anticipated that this increase will continue. In 1974, 118 medical schools graduated more than 11,000 medical students. By 1985, we anticipate more than half a million physicians practicing in the United States.

However, the growth in the number of physicians in the last decade is somewhat deceiving. For years prior

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to World War II, the expansion of medical schools was discouraged by the American Medical Association. Only in 1967 did the AMA finally adopt a position favoring the education of more physicians. The increase represents a change from a deficit position, and the ratio of physicians to population is still low. As long as the ratio remains low enough to consume most of the physician's time and energy, formal commitment of the physician to a contingency system may prove difficult.

c. Distribution of Physicians by Activity

As the number of civilian physicians has grown, their distribution among the different types of professional activities has changed somewhat. More than ever before, physicians are working both in non-patient-care areas such as research, and in group and salaried patient-care practice.

The percentage of doctors in research more than doubled in the last decade, most of this change occurring before 1970. The government's shift into research accounts for a great deal of this change. Whether this area will continue to attract physicians depends on the relative amount of Federal support of research vis-à-vis patient care.

The number of physicians on hospital salary has doubled in the last ten years. The majority of hospital

physicians work in teaching hospitals, operate certain specialized facilities, or act as chiefs of clinical and supportive departments. Community hospitals, which traditionally have not hired physicians full time, are also beginning to recruit them primarily to staff emergency departments at night. In addition, full-time physician positions in hospitals have tended to attract younger physicians. Thus, the growing emphasis on hospital rather than office-based practice is particularly marked among younger doctors.

The impact of the distribution of physicians by activity on their potential utilization in a contingency system is mixed. With relatively more physicians working for hospitals, use of their skills within the civilian system is enhanced, and availability to a civilian-military contingency system would be enhanced.

d. Distribution of Physicians by Specialty

The distribution of physicians by specialty follows traditional lines. More physicians (14%) specialize in General Practice than in any other specialty. Following General Practice, physician specialties with the greatest number of physicians are Internal Medicine, General Surgery, Psychiatry, Obstetrics, and Pediatrics. Beyond those six major specialties, no other specialty has more than 20,000 physicians. Indications are, however, that

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medical graduates are shifting their preference among the specialties, and are increasingly attracted to primary care and preventive medicine.

The distribution of physicians by specialty generally coincides with the needs of the contingency system. Most patients will need the services of general medicine or general surgery. If relatively fewer graduates enter these specialties in the future, that shift may not be advantageous for the contingency hospital system.

e. Geographic Distribution of Physicians

The three hundred (300) metropolitan areas containing 75% of the population also contain most of the physicians (82%). A slightly higher percentage (86%) of physicians in patient care are also located in the urban centers. Medical, surgical, and other specialists located in metropolitan areas constitute larger percentages than those in general practice. The large proportion of the hospital-based physicians in the metropolitan areas (95% of the total number of hospital-based physicians) reflects the clustering of in-house staff and full-time staff in large metropolitan area hospitals. The same thing can be said of those physicians engaged in administration. Most (94%) of the physicians in administration are located in the large metropolitan areas. There is a similar concentration of

medical schools and pharmaceutical companies in the urban areas.

The distribution of active, non-Federal physicians varies from region to region, as shown in Exhibit II-13. Many factors influence a physician's practice locality, including number of hospitals, hospital beds, population, and average income, all of which vary by region. Thus, certain areas, particularly the Middle Atlantic, Pacific, and the New England States, have higher numbers of physicians per capita; whereas, the East South Central and West South Central States have the lowest. (See Exhibit II-14.)

Analysis of physician distribution by individual State leads to a similar conclusion: some States have many more physicians per capita than others, and States with the most physicians tend to be proximate. The ten States with the highest and lowest physician to population ratios are listed in Exhibit II-13. In general, those with the highest ratios are highly metropolitan States, confirming the conclusion that the development of a contingency system must begin where the majority of the physicians are located: in metropolitan areas.

Exhibit II-13

NUMBER OF NON-FEDERAL PHYSICIANS BY CENSUS REGION
(1974)

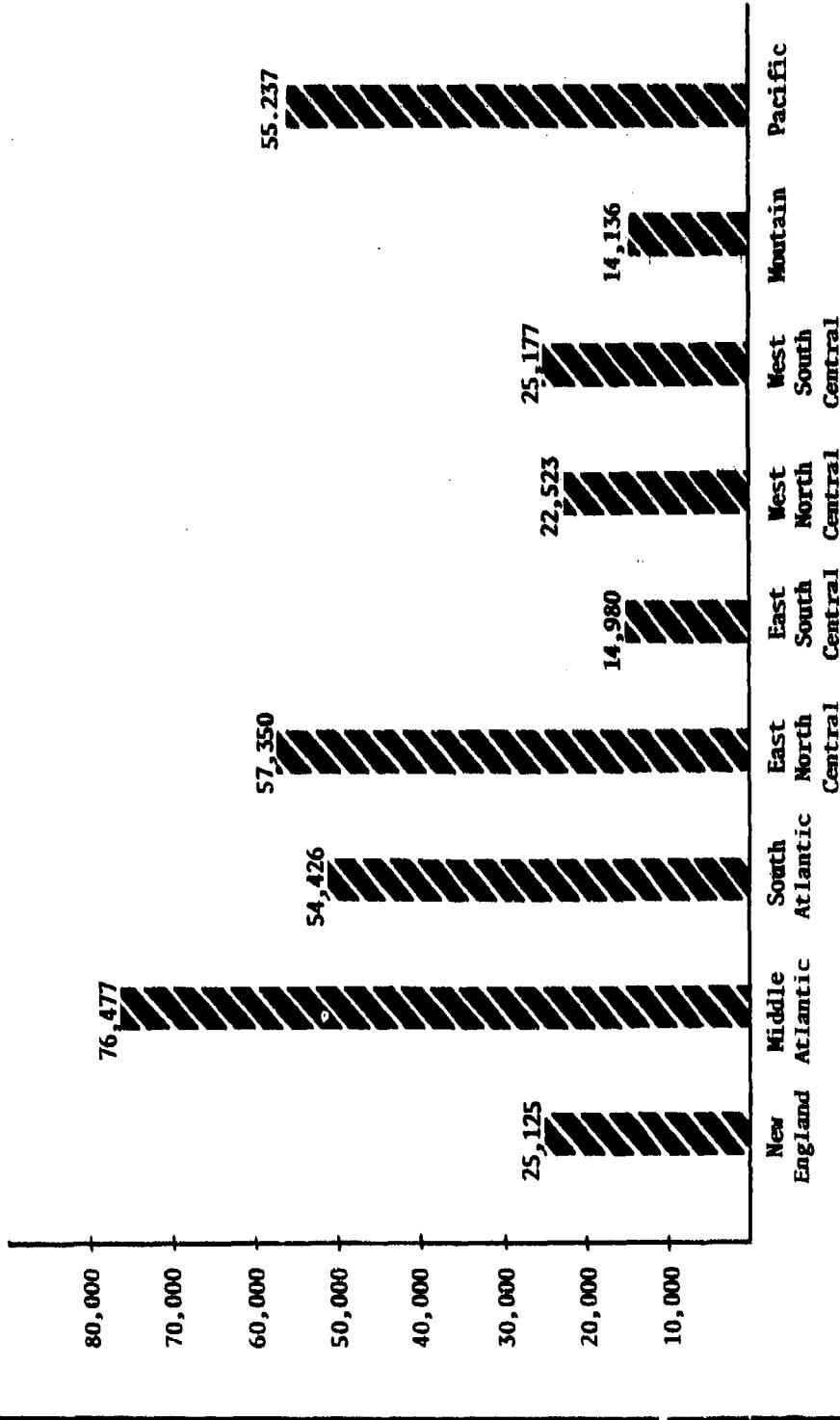


Exhibit 11-14

NUMBER OF NON-FEDERAL PHYSICIANS
PER 100,000 POPULATION BY CENSUS REGION
(1974)

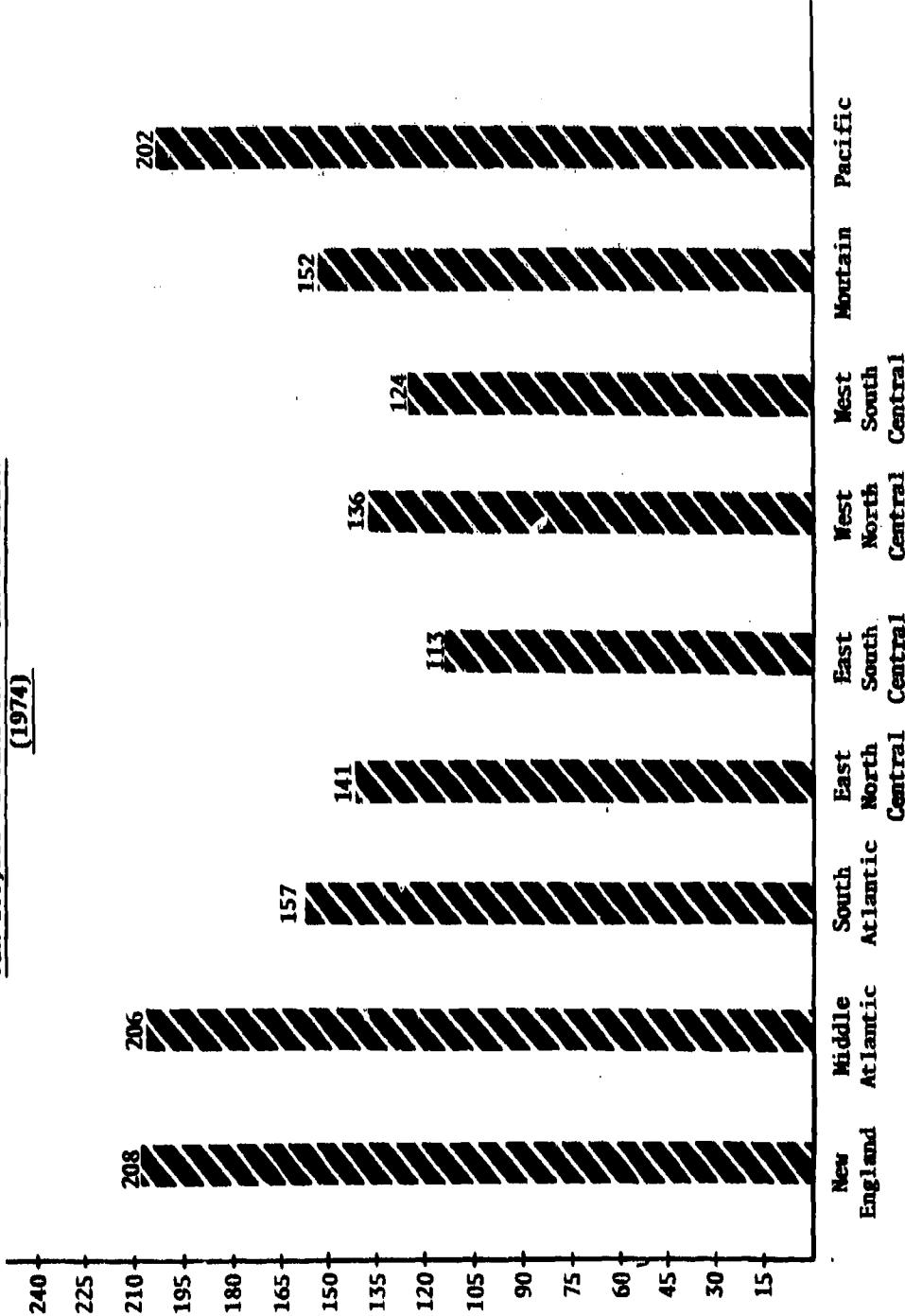


Exhibit 15A

STATES WITH HIGHEST NON-FEDERAL PHYSICIAN TO
POPULATION RATIO*

<u>Rank</u>	<u>State</u>	<u>Physicians Per 100,000 Population</u>
1	District of Columbia	455
2	New York	249
3	Massachusetts	229
4	Connecticut	216
5	California	214
6	Maryland	212
7	Vermont	198
8	Rhode Island	188
9	Colorado	183
10	Florida	178

Exhibit 15B

STATES WITH LOWEST NON-FEDERAL PHYSICIAN TO
POPULATION RATIO

<u>Rank</u>	<u>State</u>	<u>Physicians Per 100,000 Population</u>
51	South Dakota	84
50	Mississippi	92
49	Alaska	97
48	Alabama	99
47	Arkansas	99
46	Idaho	101
45	North Carolina	101
44	Wyoming	105
43	Oklahoma	108
42	Iowa	109
41	South Carolina	110

*Physician Distribution and Medical Licensure in the US, 1974, Center for Health Services Research and Development, American Medical Assn.

5. Foreign Medical Graduates

The total number of physicians practicing in the civilian system has increased dramatically from the 1950's, but in many respects this growth is simply a reflection of the influx of foreign medical graduates, who are far more numerous than American graduates.

This influx is changing the composition of our physician population. A 1974 study showed that more than seventy-five percent (75%) of these foreign-trained physicians remain in this country to practice medicine. As a consequence, more than twenty percent (20%) of all physicians practicing in the U.S. have received their education in foreign schools. This means that without the foreign medical graduates, our ratio of physicians to population would have remained the same as those of the late 1940's and early 1950's.

Especially significant is the fact that the hospital system is dependent on foreign medical graduates not only to fill house staff positions, but also to serve as full-time physician staff. In 1970, more than a third of all interns and residents, as well as full-time physician staff, were foreign-trained.

The major impact of foreign medical graduates on the contingency system is twofold. First, many of the foreign-trained physicians are not US citizens, and their participation in the contingency system could prove questionable in time of

war. Second, many of these physicians are not fully qualified; many foreign medical graduates providing patient care in our hospitals not only do not have licenses, but also may not have passed the qualifying examination for foreign medical graduates. Some of these difficulties may result from problems with the English language and from unfamiliarity with our testing methods. But evacuation of military patients to hospitals whose house staff was predominantly foreign-trained could pose difficulties.

6. Nurses

The total number of active registered nurses in the U.S. rose from 375,000 in 1950 to 500,000 in 1960 to approximately 900,000 in 1977. Nurses and related occupations, such as practical nurses, nurses' aides, and home health aides, accounted for fifty percent (50%) of the total work force employed in hospitals. Almost all personnel employed in nursing-related occupations (94%) are female. Nurses are growing in number faster than either the population or doctors. The ratio of registered nurses to population and to doctors almost doubled between 1950 and 1975: 249 per 100,000 in 1950 to 426 per 100,000 in 1975; 1.8 per physician in 1950 to 3.2 per physician in 1975.

The role and function of nurses in the health care system have expanded almost as rapidly as their numbers. Although many nurses still fill the traditional role of primary

care nurse, many more are becoming specialists in managing special facilities or in treating special patients. However, as nurses have begun to take ~~on~~ assignments requiring increased skills and giving them greater responsibility, some of their traditional functions have gone to those personnel with less nursing training: practical nurses, nurses' aides, orderlies, and attendants. This shift of functional responsibilities has played a major role in the increased number of nursing-related occupations. While the number of active registered nurses increased approximately sixty-five percent (65%) between 1960 and 1975, the number of licensed practical nurses increased more than one hundred and twenty-five percent (125%), and the number of nursing aides, orderlies, and attendants increased more than one hundred and fifty percent (150%). Of all the persons employed in nursing and related services, registered nurses constituted fifty percent (50%) in 1950 but only thirty-five percent (35%) in 1975. The number of registered nurses per hospital bed has increased by more than thirty-five percent (35%) since 1965, but the ratio of licensed practical nurses has increased by more than sixty-five percent (65%).

The present status and probable trends in nursing and related occupations do not present any difficulties for the development of a contingency system. Less than fifty percent (50%) of the registered nurses in the U.S. are currently practicing full time. Consequently, a large reservoir of nurses

exists for any emergency and with continued education could step into full-time practice with little difficulty. The trend toward higher skill requirements for registered nurses and the corresponding greater use of nursing-related occupations to handle traditional nursing roles are also favorable to a contingency system. The more functions a nurse can handle, the less reliance the system needs to place on physicians, who are in far shorter supply. The distribution of traditional nursing responsibilities to other nursing-related occupations also helps to lower skill and educational requirements. Whether all of these trends will continue is difficult to estimate; they will, as long as the civilian system continues to demand physicians in excess of supply. In those specialties or geographic locations where sufficient physicians are practicing, the nurse's role may continue to fall within traditionally defined boundaries.

7. Allied Health Personnel

One factor that has increased the cost of health care in the past two decades has been the extraordinary increase in the technological sophistication of medical care. The increased sophistication has also led to the employment of a new category of medical personnel: the allied health professional. This category of medical personnel now accounts for almost 20% of the total medical work force. The traditional duality of physician-nurse can no longer provide the full

spectrum of medical care, except in the smallest hospitals or the smallest communities.

Allied health professionals function in all areas of medical care. The major categories of allied health include clinical laboratory services, therapeutic service, radiologic technology, pharmacy, medical records, dietary services, and administration. The largest category of professionals is clinical laboratory technologists, followed by medical record clerks, x-ray technologists, surgical aides, medical secretaries, and inhalation therapists.

The growth in the number of allied health professionals has outstripped the growth of both physicians and nurses. For example, the number of inhalation therapists increased more than five hundred percent (500%) in less than ten years. Much of the increase in the number of hospital-based personnel has been a result of the increased use of allied health professionals.

The increased use and number of allied health professionals to deliver medical care means that any form of a contingency system must employ this category of medical personnel in large numbers. If the need for acute care is particularly high, then any development plans will have to incorporate their special skills.

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D. LOGISTICAL SUPPORT SYSTEMS

1. Introduction

Logistical support systems consist of transportation and communication networks, and patient administration and management information systems. The unique requirements of CMCHS for patient administration and management information are outlined in Chapter IV. In most civilian areas, transportation and communication networks are organized and operated within the framework of the Emergency Medical Services System (EMS).

2. The Emergency Medical Services System

The Emergency Medical Services System Act of 1973 was the outgrowth of an earlier AMA categorization system and the general awareness in the civilian sector that a systems approach to providing specialized medical services on a regional basis was lacking. Based on many of the assumptions that had served as a foundation for the earlier hospital categorization concept, EMS added the idea that a regionally organized system could provide improved care at a cost not obtainable on a community-by-community basis.

As defined in the law, an emergency medical services system is one

that provides for the arrangement of personnel, facilities, and equipment for the effective and coordinated delivery, in an appropriate geographical area, of health

care services under emergency conditions (occurring either as a result of the patient's condition or of natural disasters or similar conditions), and which is administered by a public or nonprofit entity which has the authority and the resources to provide effective administration of the system.

In order to establish an EMS system that would provide improved emergency medical care to all the population within a region, the EMS program considered fifteen components as essential to the system:

- Provision of Manpower: Include an adequate number of health professions, allied health professions, and other health personnel with appropriate training and experience.
- Training of Personnel: Provide for its personnel appropriate training (including clinical training) and continuing education programs which should be coordinated with similar programs in the system's service, and emphasize recruitment and necessary training of veterans with military training and experience in health care fields, and of appropriate public safety personnel in such areas.
- Communications: Join the personnel, facilities, and equipment of the system by a central communication system so that requests for emergency health care services would be handled by a communications facility which utilizes emergency medical telephonic screening, utilizes the universal emergency telephone number 911, and will have direct communication connections with the personnel, facilities, and equipment of the system and with other emergency medical services systems.
- Transportation: Include an adequate number of necessary ground, air, and water vehicles and other transportation facilities to meet

the individual characteristics of the system's service areas. Such vehicles and facilities must meet appropriate standards relating to location, design, performance, and equipment, and the operators and other personnel for such vehicles and facilities must meet appropriate training and experience requirements.

- Facilities: Include an adequate number of easily accessible emergency medical service facilities which are collectively capable of providing services on a continuous basis, which have appropriate standards relating to capacity, locations, personnel, and equipment, and which are coordinated with other health care facilities of the system.
- Transfer of Patients: Provide for the transfer of patients to facilities and programs which offer such follow-up care and rehabilitation as is necessary.
- Coordinated Medical Record Keeping: Provide for a coordinated patient record-keeping system, which records shall cover the treatment of the patient from initial entry into the system through discharge from it, and shall be consistent with ensuing patient records used in follow-up care and rehabilitation of the patient.
- Disaster Linkage: Have a plan to assure that each system will be capable of providing emergency medical services in the system's service area during mass casualties, natural disasters, or national emergencies.
- Mutual Aid Agreements: Provide for the establishment of appropriate arrangements with emergency medical services systems or similar entities serving neighboring areas for the provision of emergency medical services on a reciprocal basis where access to such services would be more appropriate and effective in terms of the services available, time, and distance.
- Critical Care Units: Provide access (including appropriate transportation) to

specialized critical medical care units in the system's service area, or, if no such units exist or an inadequate number of them exist in such area, provide access to such units in neighboring areas if access to such units is feasible.

- Use of Public Safety Agencies: Provide for the effective utilization of the personnel, facilities, and equipment of each public safety agency providing emergency medical services in the system's service area.
- Consumer Participation: Organize in such a manner to provide persons who reside in the system's service area and who have no professional training or financial interest in the provision of health care with an adequate opportunity to participate in the making of policy for the system.
- Consumer Information and Education: Provide programs of public education and information in the system's service area which stress the general dissemination of information regarding appropriate methods of medical self-help and first-aid and the availability of first-aid training programs in the area.
- Review and Evaluation: Provide such information as to allow periodic, comprehensive, and independent reviews and evaluations of the extent and quality of the emergency health care services system.

The development of a regional system was geared to the idea of a two-stage progression. As a community begins to integrate the above components, a basic life support system develops, incorporating (1) area-wide or regional emergency care coverage, (2) central access and dispatch, (3) at least one hospital with 24-hour physician coverage in the emergency department, and (4) adequately equipped ambulances with radio communications and emergency medical technicians (EMT's)

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trained to administer basic techniques.

Many problems have been encountered in attempts to establish viable EMS communications. The 911 telephone network is expensive for a community to install. There is no national network for medical facilities, and radio frequencies sometimes overlap in function and use. Many communities do not have communication centers to coordinate activities among all services required to respond to crises or disasters. In addition, it is expensive to coordinate resources that have long operated in a disjointed fashion. The cost of the EMS program for the last four years is already in the millions. Although some progress has been made, most observers would agree that much more needs to be done before anyone can state that EMS systems cover most of the country and are linked in the fashion envisioned by the legislation.

Personnel needed to coordinate such a system has proven a cost burden in itself. EMS plans call for a State medical director, a State project director, as well as regional medical directors and regional coordinators. Assuming the present arrangement of regions, a full-time system would need approximately 700 staff in the field.

Transportation and communication also pose significant costs. Upgrading the 50,000 ambulances estimated to operate in this country and the 250,000 ambulance attendants to a status comparable to an EMT technician could cost a quarter of

a billion dollars. Linking these vehicles, attendants, and the approximately 1,500 or so major hospitals into a coordinated system with radios would cost probably fifty million dollars.

Even with Federal grant money available, the EMS system concept has failed to penetrate all areas, including some of the major urban population centers. Much of the difficulty lies with existing systems, which have grown up through the years in response to local need. Many of the EMS components are meaningless or irrelevant to the local context, and some areas may never see the need to coordinate their resources. Others do not want to be bothered. Unless local areas see some value in EMS, they will not participate to the extent needed for a real crisis.

In summary, EMS development activities demonstrate that full implementation will require a long-term effort. In many respects, the present resources do not lend themselves to the system concept. Adapting individual localized systems into a coordinated operating system will require massive changes. Yet, EMS is the basic structure for local ground transportation of emergency patients in many areas, and any contingency system must evaluate the local EMS or other emergency services units as an integral part of selecting sites for the CMCHS.

E. PAYMENT SYSTEMS**1. Current Methods of Payment**

In the civilian health system, reimbursement for services rendered takes one of three forms. First, and traditionally, payment for services occurs on the basis of stated charges or so-called "fee-for-service". Most commercial insurance companies still reimburse hospitals and physicians in this manner. This form of reimbursement assumes that the economic demand and supply factors control excessive fees. At the present time, commercial insurance companies provide coverage for more than 100 million people, or close to sixty percent (60%) of the civilian population. Thus, reimbursement for stated charges represents the most frequently used method of reimbursement.

Second, Blue Cross/Blue Shield, Medicare, and Medicaid use a slightly different method of reimbursement. Payment is based on cost or charges, whichever is lower. Consequently, a hospital or physician may not be reimbursed for the full cost of a service if the charge for the service is less than the actual cost. The cost-based reimbursement system results in payment for charges for the services delivered less the difference between average costs and average charges for that particular service. Because charges for most medical services are generally higher than the cost, the commercial insurance companies have opposed the practice of cost reimbursement.

Cost reimbursement pays on the average only eighty to eighty-five percent (80-85%) of the hospital bill. In the end, commercial insurance companies are subsidizing Blue Cross/Blue Shield, Medicare, and Medicaid.

Third, as a result of the escalation in hospital and other medical care costs, a few insurance companies and Blue Cross plans have implemented an incentive or prospective reimbursement method. Prospective reimbursement combines the incurred cost system with payment based on estimates of the future incurred costs. When cost incentives are built into the prospective reimbursement system, hospitals can keep at least a portion of the difference between their actual cost and the prescribed cost ceiling. Hospitals whose costs exceed the ceiling must sustain an operating loss.

The present trend toward prospective/incentive reimbursement would probably have a favorable impact upon the development of a contingency system. The more hospitals involved in prospective reimbursement, the easier it would be to establish a payment system. However, the present trend toward prospective/incentive systems appears to have reached a peak. Experimentation in this method has shown some cost reductions but nothing dramatic. Therefore, insurance companies and providers may well maintain the two traditional forms of payment.

Between the stated charges method and the incurred cost method, the contingency system would generate lower costs with

the incurred cost method. However, fewer hospitals would be willing to participate with the incurred cost method. Most hospitals and physicians would favor payment through the traditional stated charges method, and under present circumstances this is the preferred method of operating the system.

2. Cost of Health Care

The inflationary trend that the US economy has experienced for more than two decades is paralleled by the acceleration of civilian medical care charges. The average annual percentage increase in medical care prices has usually exceeded the average annual percentage increase in the consumer price index. Generally, the difference between the two price indexes has averaged about two percent (2%) per year.

The portion of medical care costs attributable to hospitals has risen at an even faster rate than the overall medical price increase. Hospital expenses per patient day have increased well over seven hundred percent (700%) from 1950, rising at an especially rapid rate in the last decade.

An examination of medical care costs by bed size of hospital reveals two clear relationships. Total expenses per patient day increase markedly with bed size. In addition, payroll expenses per patient day constitute a higher proportion of total expense in large hospitals than in small hospitals. The

percentage of hospitals with expensive facilities and services, such as cardiac care units, open heart, and cobalt therapy, increases significantly with bed size. Large hospitals also tend to involve themselves more in medical education and research and hire a relatively larger and more technically heterogeneous labor force than small hospitals. Also important, large hospitals tend to be located in urban areas, which have higher labor rates for all categories of employment compared to rural areas. (See Exhibit II-16.)

Among bed size categories for hospitals, factors which affect the cost per day of hospital care all tend to move in the same direction. Average length of stay, occupancy rates, average employee earnings, personnel per daily census, and assets per daily census, all increase on average with the bed size of the hospital. However, other things being equal, smaller hospitals have relatively high expenses per day because their fixed costs are spread over relatively fewer patient days.

Three other cost relationships are important. First, metropolitan hospitals have higher total expenses per adjusted patient day than nonmetropolitan hospitals. Second, total expense per adjusted patient day varies considerably by region: the Pacific and Western States exhibit the highest cost per day; the East South Central shows the lowest cost. These relationships are closely correlated to population concentration, hospital location, and physician location. (See Exhibit II-17.)

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Exhibit II-16

**PAYROLL COSTS AND TOTAL COSTS PER INPATIENT DAY
FOR NON-FEDERAL, SHORT-TERM HOSPITALS BY BED SIZE**

<u>Number of Hospital Beds</u>	<u>Payroll Costs Per Inpatient Day</u>	<u>Total Costs Per Inpatient Day</u>
6-24 Beds	62.21	121.21
25-49 Beds	56.00	111.47
50-99 Beds	57.99	114.72
100-199 Beds	68.49	134.18
200-299 Beds	77.27	146.43
300-399 Beds	84.06	156.28
400-499 Beds	86.10	158.78
500+ Beds	100.00	184.10

Exhibit II-17

**TOTAL COSTS PER INPATIENT DAY FOR NON-FEDERAL
SHORT-TERM HOSPITALS BY CENSUS REGION AND
METROPOLITAN/NON-METROPOLITAN LOCATION**

<u>Census Region</u>	<u>Non-Metropolitan Hospitals</u>	<u>Metropolitan Hospitals</u>
New England	144.78	200.19
Middle Atlantic	114.44	174.02
South Atlantic	105.61	153.99
East North Central	108.40	157.79
East South Central	92.39	123.57
West North Central	92.70	137.01
West South Central	101.71	136.72
Mountain	114.13	168.37
Pacific	150.77	213.16

Third, for-profit hospitals tend to have lower costs than either nonprofit hospitals or State and local government hospitals. (See Exhibit II-18.) The principal reasons for the lower costs in for-profit hospitals are 1) less specialized care and 2) dramatically lower payroll costs. Nonpayroll costs, such as administration and overhead costs, are highest in for-profit hospitals. These discrepancies suggest that for-profit hospitals use fewer personnel and generally less qualified personnel than the other two types of hospitals. If this is true, for-profit hospitals are not ideal participants in a contingency system made up of civilian hospitals, unless cost is the only consideration.

The increase in physician costs has paralleled the increase in hospital costs and medical prices in general. Most of the increase in the cost of physician services has come after the advent of Medicare and Medicaid. Since that time, the cost of physician services has risen at a rate faster than that of other sectors of the economy except for hospitals. In addition, cost of physician services varies by specialty; obstetrician-gynecologists have the highest net income on the average, and the general practitioners the lowest.

In summary, the contingency system employing civilian institutions and personnel could result in substantial costs to DoD if activated in wartime. The peacetime cost of maintaining the contingency system, on the other hand, may be

Exhibit II-18

**PAYROLL COSTS AND TOTAL COSTS PER
INPATIENT DAY FOR NON-FEDERAL, SHORT-TERM
HOSPITALS BY TYPE OF OWNERSHIP**

<u>Ownership</u>	<u>Payroll Costs Per Inpatient Day</u>	<u>Non-Payroll Costs Per Inpatient Day</u>	<u>Total Costs Per Inpatient Day</u>
Short-Term Non-Federal Non-Profit	\$80.38	\$69.86	\$150.24
Short-Term Non-Federal For-Profit	\$63.30	\$82.24	\$145.54
Short-Term Non-Federal State and Local Government	\$85.69	\$71.67	\$157.36

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minimal, at least in terms of civilian resources, because they presently exist in substantial numbers.

F. SUMMARY

Analysis of the civilian health system could lead to a number of different, and perhaps conflicting, conclusions about the ability of integrating its resources into a contingency system. Of primary concern is whether sufficient resources exist to treat both civilian and military populations, and whether any barriers exist that would prevent the integration of those available resources into the contingency system. In general, we believe the resources do exist to meet the probable level and type of demand, and that no observable obstacles presently exist that would prevent the linkage of civilian resources to a DoD contingency system.

Specifically, we found the following:

- Hospitals and Manpower
 - Availability

It is clear that the civilian health care system (essentially, the non-Federal, short-term hospitals) have the resources to take care of expected patient demand. At present, the civilian system has 5,956 non-Federal short-term hospitals with 961,000 beds and 2.483 million full-time equivalent personnel. This system treated more than 34 million admitted patients in 1976.

- Distribution

Almost all (85%) of civilian medical

resources cluster in our major population centers and principally in three census regions: Middle Atlantic, South Atlantic, and East North Central. Therefore, any contingency system must regulate its patients into the major population centers.

— Utilization

The civilian health system and its resources are not always fully or efficiently utilized. Short-term, non-Federal hospitals have an average occupancy rate of less than seventy-five (75%). Most studies on medical resource utilization indicate that the civilian health system could utilize its resources more efficiently. However, no impetus or force currently exists to create more efficient utilization. Therefore, the availability of civilian resources may be greater than estimated.

— Contingency System

Sufficient beds are available in the private nonprofit sector in particular to support the development of a contingency system where care should be located in the larger hospitals of the metropolitan areas of the Middle Atlantic, South Atlantic, and East North Central Regions.

• Support Systems

At the present time, no national network of medical transportation or communication exists. Some State systems that combine medical resources for certain specialized types of care, such as burn, critical care, coronary care or other tertiary care services are in operation. As an adjunct to these systems the States have developed transportation and communication support networks, but beyond these isolated State systems and similar ones in several metropolitan areas, communication and transportation networks do not exist. Care must be taken in establishing CMCHS in any area to see that EMS or some type of emergency coordinating

organization are available and can be used.

- Payment Systems

Payment for services rendered in the civilian system is based either on costs or charges or some combination of the cost plus additional charges. The primary fiscal intermediaries are the independent insurance companies, the joint Federal and State Medicaid program, and the Federal Medicare program. Most of these payment systems are extremely complex and cumbersome. In particular, hospitals and physicians do not like systems that pay only costs or have excessive paperwork, such as Medicaid. The conclusion is that hospitals are more likely to participate if DoD agrees to pay charges and keeps the paperwork to a minimum. If possible, DoD should avoid associating CMCHS with other current Federal systems.

FOOTNOTES

¹ All tables and statistical information presented in this chapter are based on data from the American Hospital Association's Statistical Guide, 1973, 1976, and 1977.

² All statistics concerning physicians came from the American Medical Association's Physician Distribution and Medical Licensure in the U.S., 1974.

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CHAPTER III

DEVELOPMENT AND TEST OF THE CIVILIAN-MILITARY
CONTINGENCY HOSPITAL SYSTEM (CLICHS) CONCEPT

III. DEVELOPMENT AND TEST OF THE CIVILIAN-MILITARY CONTINGENCY HOSPITAL SYSTEM (CMCHS) CONCEPT.

A. BACKGROUND AND OBJECTIVES

1. Background

As a part of this study, a model of the proposed CMCHS, including variations in control and communications systems, was created and tested during the Nifty Nugget Exercise. The major exercise was a command post simulation of US mobilization activity for a limited war, and, as such, lent itself to the testing of a contingency hospital system concept. The flow of events for the hospitals could be closely tied to the flow of exercise events in general, and most aspects of operation and interface could be simulated. Furthermore, the exercise was structured so that excursions peculiar to the hospital system could be inserted easily and so that a breakdown in the flow of action elsewhere would not hinder the hospital exercise.

Planning for the exercise of the CMCHS began with the development of a model system and the identification of key elements that could and should be varied. Participants included selected civilian hospitals, EMS organizations, and military personnel. The American Hospital Association cooperated by encouraging several civilian hospitals to participate in the exercise, which counted as one of their required

disaster exercises. Finally, operations manuals for all participants were developed and a series of instructional briefings held.

2. Assumptions

The test of CMCHS was premised on a number of assumptions, essentially the same as those upon which this whole study is based. It was assumed, that is, that the United States was involved in a limited war which did not involve attack upon the United States. This war generated a great number of casualties who could not all be treated in the theater of operations or in the CONUS military medical facilities that remained active after mobilization and deployment. This heavy flow of wounded also severely taxed the resources of the Veterans Administration (VA) and the Public Health Service (PHS), thus requiring the use of civilian facilities. It was further assumed, for the purpose of this exercise, that sufficient medical evacuation aircraft were available to move patients from the theater and that a system of domestic redistribution of patients from the Air Staging Facilities (ASF) was in place. Although a mixture of diagnoses and conditions was simulated in the test, it was assumed that most patients were sufficiently stable to survive the lengthy intercontinental flight and CONUS and local transportation.

3. Objectives

The basic objectives of the exercise were four-fold. The first objective was to determine in a modest way how the civilian medical and hospital community would react to a proposal for such a system, and the extent to which there was interest in participation. It was decided early on in the study to avoid a lengthy or widely circulated questionnaire, at least until the design of the system took a more final shape. Thus, it was decided to deal with a limited number of hospitals to determine their interest and reaction to the project.

The second objective was to ascertain whether or not participating hospitals and Emergency Medical Services (EMS) units could, in fact, handle a large number of military patients who arrived on short notice and needed immediate attention. It was generally felt that most general hospitals with full medical, surgical, and psychiatric capabilities can handle a limited number of emergency shock trauma patients; but their ability to provide beds, surgeons, operating rooms, and local ground transportation for twenty or more additional patients at a time was not known. Thus, the test was designed to assess EMS units and hospital capabilities in both stress or surge situations as well as the cumulative effect of receiving and treating these patients. Exhibit III-1 shows the objectives within the test itself.

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Exhibit III-1

APPROACH TO NIFTY NUGGET TEST

1. Ability of Federal agencies to interact and coordinate.
 - activation of system
 - response to crises
2. Ability of communication and control systems for CMCIS to function.
 - 1. ● Send activation notices
 - Send urgent requests
 - 2. ● Devise message traffic among all players in all modes, i.e.,
 - activation
 - patient dispatch
 - patients status reporting
 - patient problems & requests
3. Ability of hospitals to receive and treat patients.
 - 1. ● Did the Government respond to activation? To other messages and problems?
 - 1. ● Did the system break down?
 - If so, where and why?
 - Were "people" or messages lost or misplaced for a time?
 - 2. ● Did the hospitals feel that they could accommodate such a surge?
 - 3. ● Did the hospitals advise participating hospital of numbers & types of patients & have hospital analyze the impact on their operations.

The third objective was to determine what type of control mechanism was most appropriate and functional from the point of view of both the civilian hospitals and the military. At the same time, a communications system was proposed and tested to ascertain the hospital's ability to communicate promptly and completely with the Military Medical Liaison Office (MMLO), and to discover the extent to which the MMLO could handle communications and administrative problems. The goal was to test both the message sending and receiving ability of both parties and their ability to act on those messages.

Finally, at a different level, portions of the play were designed to observe interagency coordination and reaction to this system. Though it appears that the Department of Defense can unilaterally create and use this hospital system as long as it does not interfere with the delivery of civilian health care, the activation of such a system has implications for a number of other agencies, most notably the Department of Health, Education and Welfare, the Selective Service System, the Department of Labor, and the Federal Emergency Management Administration. It is important that the channels for communication and consultation and the identities of appropriate officials are known, so that delays and problems can be minimized in an actual emergency.

Thus, the Nifty Nugget exercise served as a convenient vehicle to test the operation of various aspects of the

proposed Civilian-Military Contingency Hospital System (CMCHS). Each of the four identified objectives lent itself to testing in some fashion, and particular events were planned for all four objectives. It was recognized that problems in any of the first three test areas, unless solved, would jeopardize the viability of the entire system. Difficulties in the fourth area could complicate matters, and in the long run jeopardize the system. Thus, the exercise was essential to ensure that the major parts of the system did work, and to identify problems so that they could be corrected.

B. TEST ORGANIZATION AND RESULTS

1. General Observations

A test of this nature does not lend itself to a highly quantified or objective methodology because it is a command post or communications-oriented exercise with most of the activity occurring on paper. It was a practical impossibility to simulate either the transportation of patients or the care that they might receive. A number of variables, such as operating time and availability of blood and supplies, were difficult to predict. Under these circumstances, it was necessary to use the estimates of trained professionals to gauge the ability of the test system to handle the situation.

2. Gauging Hospital Interest and Participation

As mentioned earlier, the American Hospital Association was approached for comment on the developing CMCHS concept. To this end, arrangements were made with Ms. Carol Lively of the AHA to arrange a briefing for selected members of the AHA staff. This meeting was held in early July, 1978, and though the consensus was that this system might well be needed, there were grave problems facing it in a number of key areas, including payment mechanisms and malpractice suits. The initial contact and subsequent AHA "laundry list" of problems raised substantial questions and issues about various aspects of CMCHS.¹ (See Appendix A.)

The AHA later agreed to provide consultant services to help find and enlist selected hospitals as participants in the Nifty Nugget test of CMCHS.

At this point, the test planners developed the idea of testing a number of hospitals in two different areas so that two systems of control and communication could be evaluated. After some discussion, it was decided that hospitals in Philadelphia and in the Tidewater region of Virginia would be selected for the test.

Ms. Lively arranged and chaired a meeting in Philadelphia to evaluate interest. The meeting was hosted by the Delaware Valley Hospital Council. Representatives attended from four hospitals which met the basic criteria for inclusion in the

CMCHS, the local EMS organizations, the Veterans Administration Medical Center, and the Naval Hospital. The attendees seemed impressed by the need for such a system and expressed interest in participating in the test. Within a few days of the August 29 meeting, representatives of EMS and three of the hospitals had agreed to participate. (The Episcopal Hospital did not wish to participate, feeling that it was too small to be viable in such a system.) The fact that Ms. Lively and the AHA succeeded in having the exercise credited as one of the hospital's required disaster exercises no doubt encouraged participation. Philadelphia participants and levels of commitment are noted in Exhibit III-2.

Two interesting and useful sidelights that developed in both Philadelphia and in Tidewater involved the dynamics of relations among the hospitals and the experiences of their administrators. If the largest or most prestigious of the hospitals seemed inclined to join, there appeared to be an unwritten concensus in favor of the system. At the same time, administrators with military experience or backgrounds seemed to understand better the problems at hand and to be more sympathetic.

The AHA was not actively involved in enlisting participation from Tidewater hospitals. Staff members of the Naval Regional Medical Center organized the initial contacts. Each

Exhibit III-2**NIFTY NUGGET PARTICIPANTS—PHILADELPHIA**

<u>PARTICIPANTS</u>	<u>PUBLISHED NO. OF BEDS</u>	<u>PUBLISHED % OCCUPIED</u>	<u>BED COMMITMENTS FOR EXERCISE</u>
<u>HOSPITALS</u>			
HOSPITALS OF THE UNIVERSITY OF PENNSYLVANIA	694	81.6%	50
THOMAS JEFFERSON UNIVERSITY HOSPITAL	687	79.3%	50
PENNSYLVANIA HOSPITAL	433	76%	50
VETERANS' ADMINISTRATION MEDICAL CENTER-- PHILADELPHIA	---	---	50
<u>EMS PLAYERS</u>			
PHILADELPHIA HEALTH MANAGEMENT CORPORATION			
SOUTHEASTERN PENNSYLVANIA EMERGENCY HEALTH COUNCIL, INCORPORATED*			
<u>MILITARY MEDICAL LIAISON OFFICE</u>			
ASMRO, THE PENTAGON, WASHINGTON, D.C.			

*Could not be reached during exercise.

of three hospitals and both of what proved to be two EMS organizations in the Tidewater were contacted separately; all agreed to participate in the test. Exhibit III-3 presents a list of participants.

Operations Manuals were prepared (see Appendix F) and training sessions conducted for the various participants during September, 1978. (The training slides are included as Appendix G.) The Nifty Nugget exercise from alert to termination spanned about the last two weeks of October, 1978. Debriefing of participants was conducted during November.

There was a better initial understanding of the problem and the need for CMCHS among administrators with military experience. However, most of the participants expressed interest in the exercise and were attentive to the play. Several participants stated that the problems raised by the AHA would disappear in the actual event of CMCHS activation. Specifically, they felt that malpractice was not a significant issue in a wartime environment, and that, should problems of physician availability arise, the hospitals could use existing emergency plans or, if necessary, the leverage of hospital privileges to secure necessary physicians.

In post-exercise interviews the administrators agreed that the CMCHS concept was feasible, and that their hospitals would be willing to participate in such a system.² Both the AHA and the hospitals favored a payment plan based upon fees and

Exhibit III-3

NIFTY NUGGET PARTICIPANTS—TIDEWATER REGION

<u>PARTICIPANTS</u>	<u>PUBLISHED NO. OF BEDS</u>	<u>PUBLISHED % OCCUPIED</u>	<u>BED COMMITMENT FOR EXERCISE</u>
<u>HOSPITALS</u>			
RIVERSIDE HOSPITAL (NEWPORT NEWS) (INCLUDES MENTAL HEALTH CENTER)	641	76.8%	75
MEDICAL CENTER HOSPITAL (NORFOLK)	900	86.8%	50
HAMPTON GENERAL (HAMPTON)	369	70.7%	50
VETERANS' ADMINISTRATION MEDICAL CENTER (HAMPTON)	---	---	50
<u>EMS PLAYERS</u>			
TIDEWATER EMERGENCY MEDICAL SERVICES COUNCIL			
PENINSULA EMERGENCY MEDICAL SERVICES*			
<u>MILITARY MEDICAL LIAISON OFFICE</u>			
NAVAL REGIONAL MEDICAL CENTER PORTSMOUTH, VA.			

*Could not be reached during exercise

charges rather than plans linked to Medicare or Medicaid formulas. Hospitals felt that generally they could accommodate the workload posed by the agreed level of commitment; they were not stressed by the numbers or types of patients sent to them in the exercise. As suggested above, those administrators in areas of high military concentrations or those with military experience were generally more perceptive of unique military aspects of the problem. Thus, it appears that hospitals can be enlisted for CMCHS if the program is given some advance publicity, AHA acknowledges its value and approves it, and incentives such as accredited disaster exercises are included in the program.

3. Gauging Physician Participation

Physician participation was not directly measured in this exercise, nor was the American Medical Association advised of the existence of CMCHS. Rather, hospital administrators were asked to advise physicians of the test and its importance. After the test began, each administrator was asked to assign physicians to each of the paper "patients" he received and then to contact a sample of doctors to see if a physician could treat a given patient. Though this was done with varying degrees of thoroughness, the consensus is that physicians and surgeons will be available, if for no other reason than their Hippocratic Oath and/or patriotism. Reserve call-up and the

doctor draft were discussed only in general terms, and most administrators felt that, even if both were to happen, they could call in doctors from surrounding and outlying areas or use the leverage of privileges, mentioned above. Thus, in a crisis or surge situation, qualified medical specialists would be available.

However, the issue was not entirely resolved during the test. All of the administrators made it clear that the doctors wanted no part of paperwork or regimentation. No conflicts were seen in the short run, but it was felt that prolonged use of civilian facilities--which might prevent the admission of, or interfere with relations with, the doctor's private patients--could create problems. One administrator at a major teaching hospital noted that a sizeable part of his general workload was handled by young physicians who would be the first drafted, and that the loss of a substantial number of them would jeopardize his operation.

A special survey was conducted at Thomas Jefferson University to assess the medical staff's vulnerability to the draft or reserve call-up. The results, which are noted in Exhibit III-4, suggest that less than one third of the medical staff is likely to be vulnerable.

Most of the administrators expressed uncertainty about the status of workers in the allied health fields. It was not

Exhibit III-4**MILITARY STATUS OF MEDICAL STAFF
THOMAS JEFFERSON UNIVERSITY**

<u>STATUS</u>	<u>NUMBER OF PHYSICIANS</u>	<u>PERCENTAGE</u>
No Former Service	40	17
Former Service	85	36
Retired	98*	42
Reserve status: Active	2	1
Inactive	9	4
<u>Total Responses</u>	<u>234</u>	<u>100</u>

*The principal investigator believes that "about 90% of the respondents who claim to be retirees actually served 2 to 4 years."

possible to exercise them in this test, and administrators could not predict the impact of a draft on these employees.

Thus, an initial assessment is that physician manpower would be available during the early surge of system activation, and that, overall, there would be cooperation from the doctors. However, the long-range impact of CMCHS on the doctors and the effect on mobilization or a draft on both the physicians and other health professionals suggest possible problems. If the system works as it should, the long-term effect on both hospital operations and physician-private patient relations should not be serious. Paperwork should be minimal for physicians and the demands on their time concentrated in an initial surge period. Larger problems of manpower and draft policy are beyond the scope of this paper, but clearly deserve attention and study.

4. Hospital Functions

In order to test the ability of both the hospitals and the EMS organizations to handle casualties, a system of alert, activation, notification, and monitoring of activities was developed.

After the potential need for the civilian capability was established, the Military Medical Liaison Offices were ordered to "alert" the participating hospitals. The purpose of the alert was to enhance local readiness and to commence a flow of information about local capability. The alert notice required

each hospital to begin reporting to its MMLO the current status of bed capacity for military patients (in the form shown on Exhibit III-5), and to continue reporting daily in this manner until the exercise was over. The alert notice did not require the hospital to clear bed space or in any way modify current care of civilian patients. Its sole purpose was to elicit attention to the emerging situation and to start a flow of information.

Whereas all participating hospitals were "alerted" simultaneously, hospitals were "activated" only as need for their beds was imminent. Activation meant that the notified hospital would be used for military patients and that some of those patients would arrive within 24-48 hours. Activation required the hospitals to take steps to accommodate those patients and to report enhanced capability (Exhibit III-5).

Five of the six civilian hospitals executed daily reporting with only minor problems or misunderstandings. The major problem was tardiness in reporting, which was resolved by having the MMLO call the hospital if reports were not in by the assigned time. A major problem emerged in the distribution of types of beds. The hospitals had been asked to report by medical, surgical, and psychiatric capabilities, and appear to have arranged for a fairly even distribution of beds among the three categories. The patients regulated to them were primarily surgical and medical, so that by the second or third time

Exhibit III-5

Report Format #1: DAILY CENSUS, BED, AND STATUS REPORT

(As of Date and Time)

FROM:

(NAME AND LOCATION OF HOSPITAL)

TO:

(MILITARY MEDICAL LIAISON OFFICE)

SUBJECT: DAILY CENSUS, BED, AND STATUS REPORT (CMCHS Report #1)

THIS IS A NIFTY NUGGET EXERCISE COMMUNICATION

1. CENSUS REPORT (of Military Patients)

a. Previous Census: _____

b. Admissions : _____

c. Dispositions : _____

d. Current Census : _____

2. BED STATUS

a. Open Military Beds

b. Military Commitment

1) Medical : _____

1) Current Military Census: _____

2) Surgical : _____

2) Open Military Beds : _____

3) Psychiatric: _____

3) Occupied by Civilians : _____

TOTAL Open Beds: _____

TOTAL Military Commitment : _____

3: PROBLEMS: (List and discuss any problems which circumscribe the ability of your hospital to care for military patients.)

THIS WAS A NIFTY NUGGET EXERCISE COMMUNICATION

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patients were sent to the hospital, there were few surgical and medical beds but many psychiatric. The anticipated mix of casualties must be communicated to the hospitals and care taken to see that the bed commitments match the anticipated mix. Although this problem can never be eliminated, better coordination can ameliorate it.

Another important lesson learned in this exercise is that hospitals coordinate among themselves, and more or less assign specialized treatment and care. In Philadelphia, for example, none of the participating hospitals, including the large and diverse University Hospital of Pennsylvania, would willingly treat a burn patient, because two smaller institutions in the area had developed specialities in that type of care. Indeed, as a part of the play, the participating facilities reported that they had stabilized the burn patients sent to them and transferred these patients to the other nonparticipating hospitals. Thus, in enlisting hospitals, care must be taken to ascertain what types of specialized care are available in each geographic area for inclusion in the system. It also is clear that existing cooperative arrangements could yield more beds and capability than formally committed to CMCHS.

To simulate the arrival of patients, the hospitals were contacted by the MMLO and told to open one or another of a series of numbered envelopes. Each envelope contained twenty-five "patient" forms with diagnoses distributed as noted in

Exhibit III-6. Each form contained personal data, diagnosis, and condition of a patient who had just arrived at the hospital. (See Exhibit III-7 for a sample "patient".) The administrator was to review these cases, assign bed space, consult with physicians, and assess the impact of their arrival on his facility.

As might be expected, the arrival of twenty-five patients with a wide range of wounds and problems created some stress. The time of arrival of these patients was a significant factor, especially if the morning shift had just ended. Most of the administrators acknowledged that they would have to call nurses and others into overtime, or call back to the hospital some who had just gone off duty. Physicians were also difficult to locate in the early morning or late afternoon. Triage and admitting these patients was considered a major problem, especially in Tidewater. Concern was also expressed over the availability of surgical packs and blood, especially if the patients arrived late in the day when additional supplies and blood donors would be harder to find. Still, all the administrators felt that one way or another they could provide timely treatment for these military patients and secure sufficient consumable supplies.

In most instances, the doctors balked at triaging the patients or estimating treatment times; they felt the diagnosis and statement of condition provided on each patient were too brief, and that details such as blood type should have been

Exhibit III-6

DISTRIBUTION OF DIAGNOSES IN
NIFTY NUGGET EXERCISE

<u>DIAGNOSIS</u>	<u>NUMBER</u>
<u>SURGICAL DIAGNOSES</u>	
Fractures	5
Wounds	10
Burns	3
OB/Gyn	<u>1</u>
<u>Subtotal</u>	19
<u>MEDICAL</u>	
Respiratory and Infections	2
Allergies	1
Digestive	<u>2</u>
<u>Subtotal</u>	5
<u>PSYCHIATRIC</u>	
<u>TOTAL</u>	<u>1</u> 25

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Exhibit III-7

<u>PRESENTING INFORMATION</u>		<u>HOSPITAL ACTIVITIES</u>		<u>ATTENDING PHYSICIAN</u>	<u>TIME CONTACTED</u>	<u>AGREES TO ATTEND</u>	<u>CONTROL NO:</u>
<u>PATIENT IDENTIFICATION</u>		<u>NAME:</u>	<u>GRADE:</u>	<u>MILITARY SERVICE:</u>	<u>SSN:</u>	<u>DOB:</u>	
<u>NAME:</u> <u>PARSONS</u>		<u>GRADE:</u> <u>CAPT.</u>		<u>MILITARY SERVICE:</u> <u>USA</u>	<u>SSN:</u> <u>1101</u>	<u>DOB:</u> <u>1954</u>	
<u>ADMISSION DIAGNOSES</u>		<u>WARD/ROOM #:</u> _____		<u>SURGERY:</u> _____		<u>(Date and Time)</u>	
1. <u>Wounds - Larynx (foreign body)</u>							
2. _____							
3. _____							
<u>PATIENT CATEGORY:</u> <u>2</u>		<u>DISPOSITION:</u> _____		<u>RETURNED TO DUTY</u> _____		<u>TRANSFERRED TO</u> _____	
<u>CONDITION</u>		<input type="checkbox"/> <u>SATISFACTORY</u>		<input type="checkbox"/> <u>LEFT WITHOUT AUTHORITY</u>		<input type="checkbox"/> <u>DIED - REMAINS SENT TO</u> _____	
<input type="checkbox"/> <u>SERIOUS</u>		<input checked="" type="checkbox"/> <u>CRITICAL</u>		<input type="checkbox"/> <u>DEAD ON ARRIVAL</u>			

included. The universal sentiment appeared to be that doctors "would treat bodies but not treat paper."³ For this reason, it was difficult to predict surgical schedules and length of treatment activities, as well as to assess the impact on other departments of the hospitals. In Tidewater particularly there was some doubt about the ability of these other departments to cope with this influx of patients.

The act of receiving and treating patients was repeated two or three times until each hospital's quota of military patients was reached. The hospitals were able to obtain the appropriate number and type of beds over the course of the exercise despite the fact that most hospitals had fewer beds and higher occupancy rates than described in the most recent AHA publication. Most of the administrators stated that they would probably have had to discharge some patients early or slightly restrict admissions for elective surgery toward the end of the exercise. Pennsylvania Hospital noted that it did not receive enough patients, but this was because it had a high number of psychiatric beds, while only a few psychiatric patients were created. All of the hospitals noted that the commitments they had made would not cut appreciably into civilian health care, and that they could find ways to meet this commitment even in months of high activity such as October and January.

In an attempt to determine further the hospital's

abilities to communicate properly and completely with the MMLO, the control player requested each hospital to send certain specific messages relating to patient status, and patient administration to the MMLO at various times. The hospitals did, in fact, send these messages properly and promptly. In most cases the hospitals did assign a physician to each patient, and used the patient description sheet as an admission form and working sheet. Thus, in most cases the hospitals were able to discharge promptly and accurately the duties assigned to them.

The exercise also demonstrated that a modest level of training and familiarity with the system is required by at least two people at each facility. At one hospital the only person trained for the exercise was called for jury duty and had no chance to initiate others into the workings of the system. The result was a total system breakdown at that hospital for two days. A replacement, however, was trained through telephone conversations and review of the Operations Manuals. Yet, the necessity for having trained personnel on hand was clear, emphasizing the importance of training and periodic exercise of the system.

5. EMS Performance

Prompt, effective local ground transportation from the patient's point of arrival to the civilian hospital is essential to the system and becomes all the more important when one

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considers the great distance patients will have already travelled. By chance, both Philadelphia and the Tidewater areas have very strong, well-organized EMS organizations that were hardly stressed by this exercise. In Philadelphia, the EMS director was able to handle all the patients assigned, and could even provide a unit with a doctor and nurses to begin triaging patients as well as several mobile intensive care units within minutes of knowing where to meet the patients. Even if a plane were to land in northern New Jersey, he could dispatch sufficient units and coordinate with New Jersey personnel to bring the patients to Philadelphia. In the mobile intensive care units, physicians and paramedics can begin treatment on critical patients en route to the hospital.

The same capability exists in Tidewater units, one of which was on the Peninsula, the other in Norfolk and Virginia Beach. Again, prompt, effective transportation from any point in the area could be provided on short or no notice. Though the two organizations are separately administered, they are closely coordinated and often plan together. The Tidewater administrators admitted that such a surge in demand for EMS vehicles might leave some smaller communities temporarily without a unit, but even this could be covered if necessary.

The extent to which similar well-organized EMS organizations exist elsewhere cannot readily be determined. Mr. John Reardon, the Assistant Director of the EMS program in DHEW,

states that most major metropolitan areas and their immediate environs possess fairly well coordinated EMS systems. This augers well for CMCHS, as the main emphasis of the system will be upon areas where the majority of the larger hospitals and greater numbers of physicians are located.⁴

However, two of the EMS organizations that had agreed to participate in Nifty Nugget could not be reached by telephone when they were needed (see notes on Exhibits III-2 and 3). While alternative arrangements were available in this instance, care must be taken before enlisting hospitals in the system to see that EMS units are organized, available, and capable of transporting arriving military patients. Failure to do so could result in the addition of beds to the system that cannot be reached when needed.

It should be noted that EMS organizations that provide for coordination and control do not have legal, administrative, or actual operational control over the local units. Responsible boards, city agencies, or councils may actually control the vehicles. Thus, it may be necessary to consult, negotiate letters of intent or contracts, and meet the particular needs of these organizations. In many areas the coordinating board may be authorized to make agreements and commitments; but because of the diversity of the EMS structure, this must be determined on an area-by-area basis.⁵

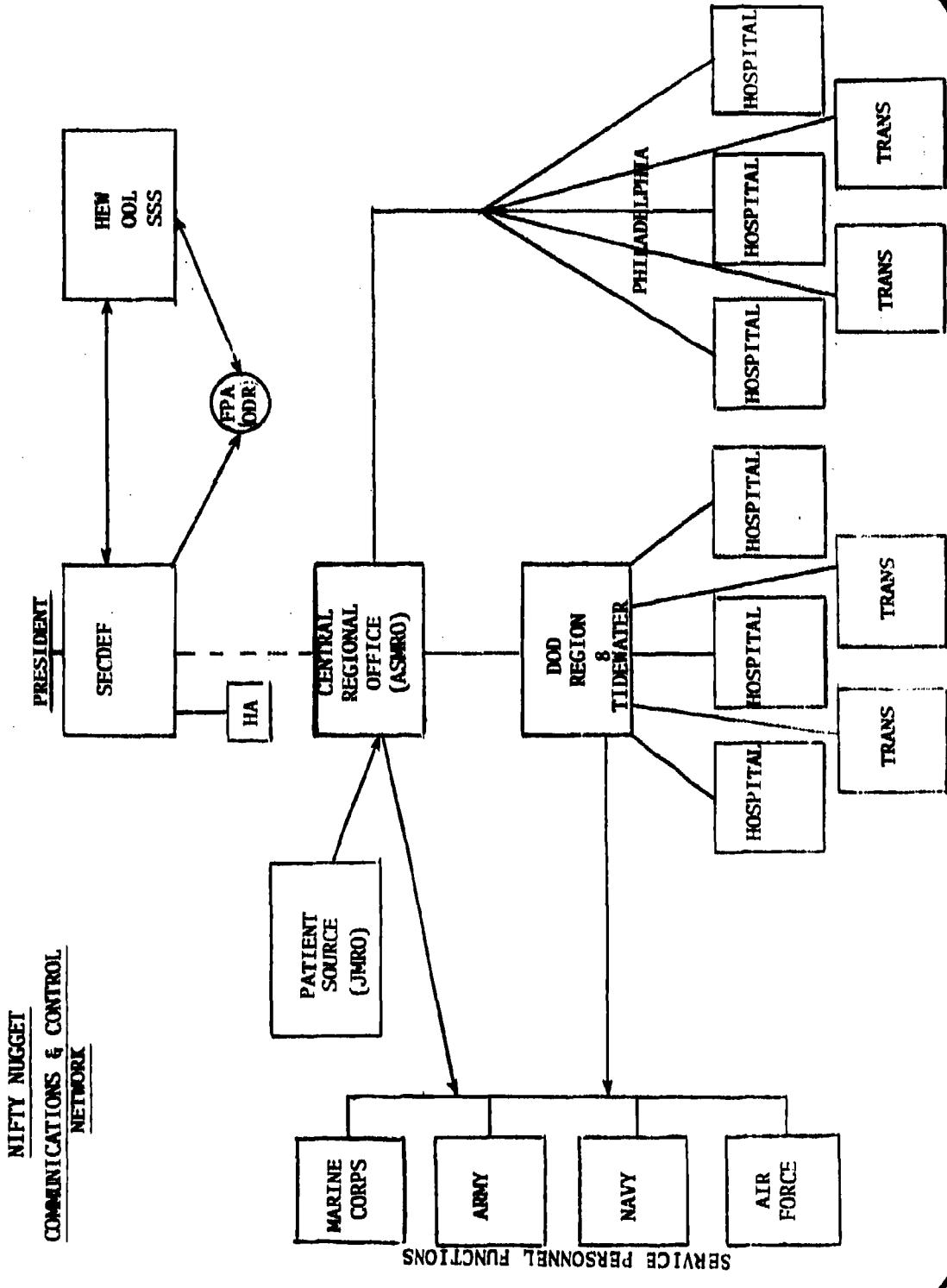
6. Control and Communications Structure

Exhibit III-8 shows the overall control and communications structure that was tested in the Nifty Nugget Exercise. As can be seen there were two basic structures to be tested. In one involving the Philadelphia hospitals, the Military Medical Liaison Office was located in the Armed Services Medical Regulation Office (ASMRO) in Washington. In this instance, ASMRO served as both a central regulating office, a contact point for all Philadelphia participants, and a clearinghouse for their problems, reports, and patient administration information. In the second structure involving the Tidewater hospitals, Naval medical personnel from DoD Medical Region 8 served as a local MMLO. This office had contact with the ASMRO to report daily the overall number of available beds in Region 8 and to receive from ASMRO information on patients being regulated to Region 8 by ASMRO. The Tidewater MMLO was responsible for the details of local patient regulation, bed census, and patient administration.

Though the regional approach appeared more cumbersome on paper, its theoretical advantages were shown to be real in the course of the exercise. In the first place, it was theorized that a central regulating unit that had to have reports from hospitals across the nation would be overburdened with communication problems. In the estimation of the ASMRO players, this would be the case; magnifying even the sample reporting of bed

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Exhibit III-8



availability each day by one hundred times would create an enormous communications problem which would require many additional telephone lines and personnel. Conversely, a reasonable number of telephone calls from regional MMLO's, providing aggregate bed availability for a region or area, could be more easily received, evaluated, and used.

A second theory was that a central regulating office would find regulating to individual hospitals in a mass casualty situation cumbersome if not impossible. The ASMRO players did not, however, feel that this was the case, and on the first day even regulated numbers of patients to individual Tidewater hospitals, after the Tidewater MMLO provided a breakdown of available beds by hospital. ASMRO noted that the Joint Medical Regulating Office in Europe (JMRO) required that each patient be assigned a specific destination under current procedure, and simply saying "Tidewater" or "Philadelphia" will not do. Since, in addition to the normal military hospitals, only six civilian and two Veterans Administration hospitals were playing, regulation did not pose a problem.

* However, with any great number of hospitals, this approach might well have gotten out of hand. In a regional structure the local MMLO can be advised by the central regulating office that since his area has x number of beds available, x number of patients will be regulated to his area. The local MMLO, having closer contact and better knowledge of the

capabilities of hospitals in its area, can better allocate these patients to the facilities and keep abreast of changing local situations. This would also have the advantage of creating shorter messages and instructions to be sent from the central regulating office to the JMRO, a consideration of some significance in a mass casualty situation.

It was generally conceded even before the exercise began that routing patient administration information through the central regulating office would assign to that office an entirely new function with which it had no training or experience and which would require additional communications equipment and personnel. The ASMRO players were not enthusiastic about this "new" function. Although in this exercise they were able to determine to whom various types of messages should be forwarded, they could not respond in a timely fashion to the requirements of the participating hospitals. In a real emergency, ASMRO would have been swamped by this function alone, which clearly is not its designated mission.

Thus, the regional MMLO approach offers a number of advantages. First, it substantially reduces the communications problems of the central regulating office and the central military command. Considering that the respective Service for each patient must be contacted at least twice (for location and later for disposition) and that problems of change of status, receiving pay, leave and awards are all bound to occur to some

degree, the communications burden alone becomes enormous. A second advantage of the regional approach is that trained regional personnel can probably accomplish the same tasks in an expeditious fashion, and resolve any number of problems on the spot without involving people higher in the command structure. The ASMRO players strongly urged that the regulating and patient administration issues be kept apart, and in this instance endorsed the regional approach.

It should also be noted that though the hospital could not compare approaches themselves, the facilities in Tidewater seemed pleased with their arrangement. On the other hand, the Philadelphia hospitals, while not criticizing the AMSRO players, gave the impression that they would have been more comfortable with a military presence in their area. One further advantage, described in more detail later in this report, is that the payment process could be simplified and expedited by using a regional control structure.

Thus, the discussions about the type of control and communications system and the events of the test all focussed on the effectiveness of a regional structure for both regulating and dealing with the patient administration matters. Although the ASMRO players were reluctant to concede the regulation of patients on a hospital-by-hospital basis, it appears that a contingency in which a regional MMLO handles the details of

local regulating, liaison with the community, and patient administration, may prove to be the most viable structure.

7. Intergovernmental Relations

The play of intergovernmental relations in this exercise was somewhat restricted, yet telling. CMCHS play was restricted in that no Nifty Nugget messages were allowed prior to the actual beginning of the exercise, by which time the flow of events leading to the exercise had already been established. Thus, it was impossible to advise players at other involved agencies of the creation, purpose, or size of CMCHS. There was speculation that this lack of knowledge could create problems or delays, especially if DHEW wanted background information and time to assess the potential impact of the system. On the other hand, there was a feeling that this method of play might be more realistic because it would simulate a DoD unilateral development and implementation of the system.

What in fact happened was that when the system was activated and FEMA, DHEW, and the Interagency Emergency Coordination Group (IECG) were so notified, there was only one brief query about the system. A DHEW player in IECG called and asked to be briefed on the system; after hearing the explanation of the system's purpose and size, his only comment was that the Public Health Service should be listed as an information addressee.

for a message relating to CMCHS, since it impacted upon its operations.⁶ The system came up for discussion at one meeting of the Office of Defense Resources (ODR), but even then the discussion did not center upon curtailment of civilian hospital care.

The issue that was quickly identified as a problem area, however, was that of health manpower in general. Both the Selective Service System and DHEW recognized that DoD requirements for physicians raised problems. The entry of yet another competitor into the field of health care meant that coordination in developing the demand and priorities for each competitor was necessary. Although no one objected to CMCHS during the exercise, it became clear that a problem had been identified, and a solution, coordinated among all of the involved agencies, was required.

8. The Veterans Administration

The initial plans for CMCHS play in Nifty Nugget had not included either Public Health Service or Veterans Administration facilities. However, in late August, emergency preparedness officials who were the VA players in the exercise found out about the exercise of CMCHS and, after being briefed on the system, expressed a desire to be included in the play. Thus, arrangements were made to incorporate them into the exercise

flow. Representatives of VA medical centers attended the briefings and training sessions, received and treated casualties, and generally had the same experiences that civilian hospitals did.

There were significant lessons learned, however. Chief among these was that many VA physicians are also on the staffs of other hospitals, and that the VA does not possess all the subspecialties of other, larger facilities. Thus, a VA facility might not be able to care for a shock trauma or surgery patient. Further, VA officials noted that, though they had access to a pool of older physicians who could be called in emergencies, many of their doctors were Reservists, subject to call, and this fact could curtail their capabilities. They also noted that their psychiatric capability was particularly strong, and that female and nonbattle injuries might be their special areas of care. They expressed a desire to have their mission in such a system defined as specifically as possible so that they could make decisions with respect to their normal duties and obligations to veterans. The VA medical centers were active and willing players and used the exercise to probe their operation in order to uncover internal strengths and weaknesses.

C. OBSERVATIONS AND CONCLUSIONS

The planning, briefings, discussions which preceded Nifty Nugget, and the exercise itself, all served to demonstrate that civilian hospitals would in fact participate in such a system,

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and that this system will function in an emergency. In general, the hospitals felt that they could meet the surge requirements with appropriate facilities, prompt care, adequate staff and supplies. The EMS units which participated clearly felt that they could cope with even the most onerous of circumstances envisioned for CMCHS. The hospitals felt that their capabilities would be taxed, but not broken, in a situation where they received patients within the limits of their agreed commitment. The hospital's major concern was for the long-term effect of introducing these patients on the practices of their physicians. In general, there was an understanding of the problem and a desire to participate in the system.

The exercise served to pinpoint problem areas and identify weak points in the structure. Though some elements could be tested more completely than others, all aspects of the basic system received some play, so that much was learned about all phases of the system. In short, the exercise achieved its purpose and aided in the development of a functional and realistic civilian-military contingency hospital system.

FOOTNOTES

¹ The briefing was held in Chicago on July 7, 1978. The "laundry list" of problems was gathered and forwarded by Ms. Lively on July 24, 1978.

² Dr. Robert White conducted postexercise briefings in Philadelphia on November 5 and 6, 1978. Captain Ted Conaway, MSC, USN, (Ret) conducted interviews in the Tidewater on November 6-10, 1978. These and later observations are based upon those taped interviews.

³ Conaway comment, Summary tape, November 10, 1978.

⁴ Interview with Mr. John Reardon, August 1, 1978.

⁵ Ibid.

⁶ Telephone conversation between Mr. Hanford Edsal and Dr. Swiger, October 12, 1978.

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CHAPTER IV

THE RECOMMENDED COTTON-PLANTATION COST - 1913
HOME-OF-INDUSTRIAL-COMMISSION
OF THE DEPARTMENT OF COMMERCE
AND THE COTTON-PLANTATION COST
COMMITTEE OF THE COTTON-PLANTATION
COUNCIL

IV. THE RECOMMENDED CIVILIAN-MILITARY CONTINGENCY HOSPITAL SYSTEM CONFIGURATION

A. INTRODUCTION

The Civilian-Military Contingency Hospital System (CMCHS) is a complex system that will interface with the activities of various organizations. The development of this system in its many aspects forces consideration and resolution of numerous problems which may vary from one locale to another. This chapter will describe and discuss the recommended configuration of each aspect of the system, present any viable options or alternatives to that configuration, and then present a series of resulting conclusions.

B. CMCHS BEDS AND THEIR LOCATIONS

Choosing a configuration and linking system for hospitals and manpower is the central issue in the development of a contingency system. It is imperative that as many beds as possible become available with a minimal amount of lead time and logistical support. Although no single configuration provides an optimal solution, a number of alternatives do provide a close approximation and form the basis for the selection of hospitals for this system. Specifically, five critical factors for selecting participating hospitals have been identified:

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- Readiness Capability: Open Beds

Ideally, participating hospitals should be able to contribute a minimum of 30-50 beds with short notice and without undue hardship on the surrounding civilian community. Selection criteria might include large hospitals and low occupancy rate.

- Proximity to Debarkation Port and Jet Airports

Statistics from previous wars and mass disasters point to the importance of time in providing medical care. The greater the distance and the longer the time required to traverse that distance, the greater the chance of complications to the patient. More than 800 miles (2 hours) by jet or 100 miles by land transportation from the debarkation port may be excessive, except for ambulatory patients. Therefore, hospitals close to the debarkation ports or large airports would be ideal participants.

- Special Services Capability

A tri-Service panel of medical experts advised that each participating hospital should be able to provide basic special services that patients entering CONUS would ordinarily need, including postoperative recovery room, intensive care, blood bank, respiratory therapy, and physical therapy. Selected other special services such as burn therapy should be available in the area.

- Available Personnel

Participating hospitals must have not only the five required special services, but also trained staff available to provide around-the-clock coverage in these services. In addition, they must have sufficient personnel to accommodate occupancy rates beyond 95% for a significant period of time. Again, larger hospitals are more likely to meet these criteria.

- Efficient Local Emergency Transportation

Good local emergency transportation is essential to the operation of this contingency system. These areas with excellent EMS organizations should be sought out first. EMS is not the only means of

emergency medical transportation, however, and other organizations or arrangements may be found to transport patients in areas without EMS.

1. Bed Availability

In order to obtain some idea of the number of hospital beds available in the civilian sector, it is worthwhile to examine a number of alternative calculations about these beds. These calculations, though based upon American Hospital Association data, are somewhat theoretical because they discount the variety, complexity, and specialization found among civilian hospitals in a wide range of settings. Though the final system will reflect these variations and nuances, the numbers provided below give some idea of the potential of this system.

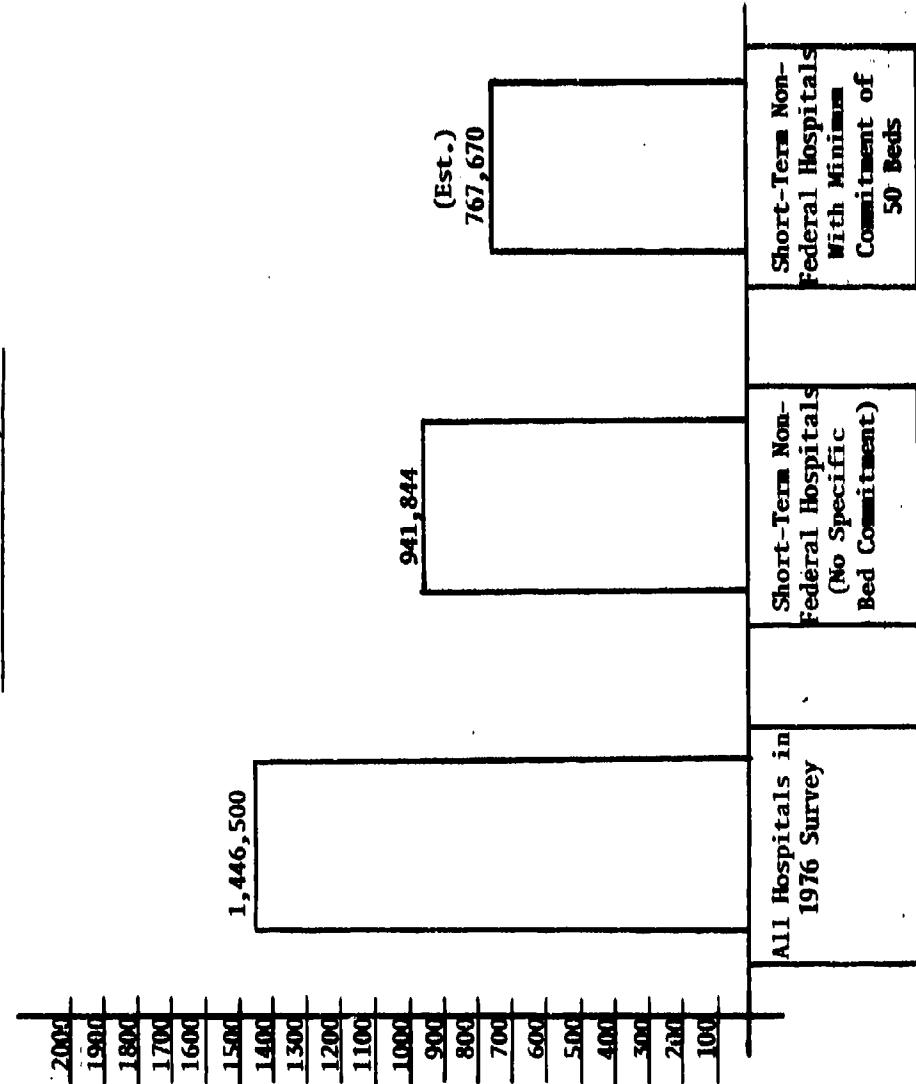
The ideal configuration would have a minimum number of participating hospitals with a maximum number of beds and services, yet would make little or no intrusion on civilian health care delivery. Further, these hospitals would be located close to military liaison organizations and debarkation ports and would already have established links to DoD and local EMS systems. Combining these elements for the optimum system or trading off among the elements to obtain the best solution is difficult. The following calculations consider several of these elements to provide a rough estimate of potential bed availability.

Exhibit IV-1 shows how the field of available beds can be narrowed. The 1.4 million beds on the left represent the total number of beds available in all hospitals participating in the AHA survey in 1976. Included are not only Federal and State and local beds, but also beds in long-term facilities such as mental institutions and respiratory disease facilities. As noted in Chapter II, these latter hospitals are of little value to the contingency system. "All hospitals" is, however, the universe from which CMCHS must select its beds.

The middle column, representing some 941,000 beds, presents the number of beds available from all short-term, non-Federal hospitals. These include the small hospitals that might not possess the basic required capabilities, be convenient to debarkation points, or have sufficient size or staff to handle any large number of emergency cases on short notice. They do, however, provide a starting point for winnowing out the available non-Federal beds that meet the desired criteria.

Any number of standards might be applied to narrow the field further; the third column, representing approximately 767,000 beds, demonstrates the effect of applying one such limit on the original field of 941,000. In column three only beds in hospitals which, because of size, could offer a minimum commitment of 50 beds, are included. Almost 200,000 potential beds are lost by application of this one criterion. Applying a number of criteria would further restrict the size of the system.

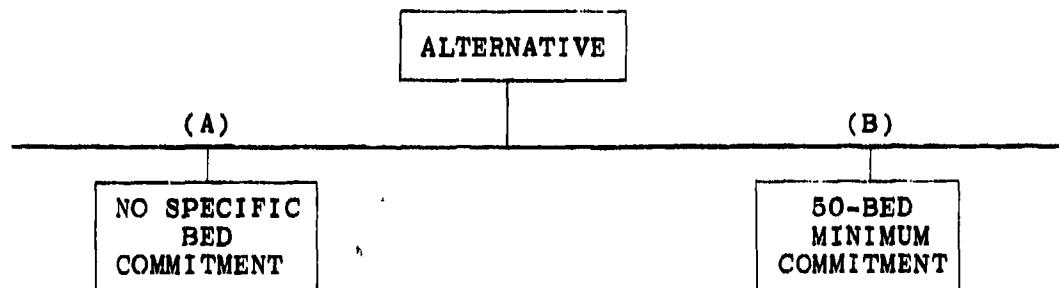
Exhibit IV-1
Potential Beds Available For a Contingency Hospital System
Based on AHA Survey Data



To illustrate this point, a number of alternatives were postulated and each alternative examined in terms of several options. The alternatives selected are realistic ones, serving to show how the number of available beds is reduced. These alternatives are:

- A configuration including all short-term, non-Federal hospitals regardless of size, location or specialty services. This alternative would provide the most beds.
- A configuration including all short-term, non-Federal hospitals with the five required special services: post-operative recovery room, intensive care, blood bank, respiratory therapy, and physical therapy.
- A configuration including all short-term, non-Federal hospitals within the 300 SMSA boundaries regardless of their special service capabilities.
- A configuration including all short-term, non-Federal hospitals within 100 miles of an ASF and with the five required special services.

For each of these configuration, several further constraints can be applied. These constraints were analyzed by means of an "option tree" which is as follows:



The two options constrain the number of available beds and participating hospitals in the following different ways:

- Option A without a specific bed commitment provides more available beds and more participating hospitals but fewer beds per participating hospital.
- Option B with a 50 bed minimum commitment generally reduces the number of participating hospitals by about 50% but reduces the number of available beds by much less. Consequently, the average number of available beds per hospital increases dramatically.

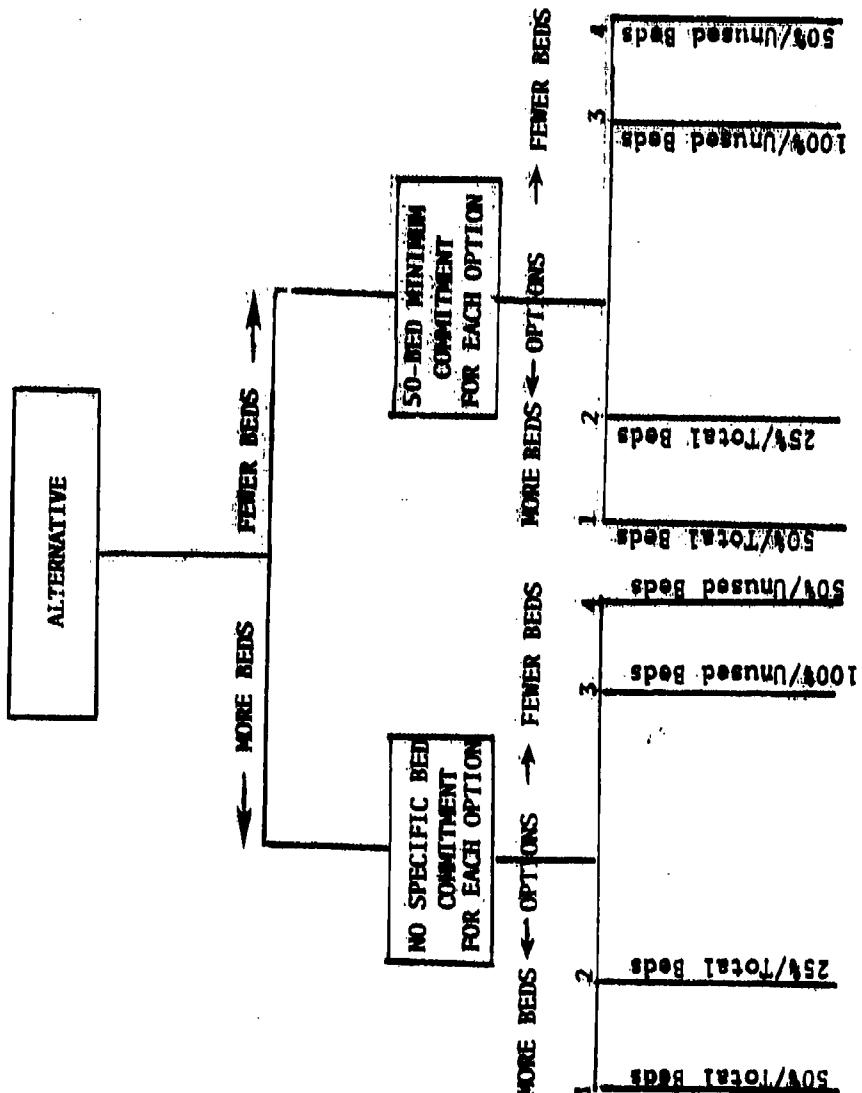
To pinpoint the alternatives further, four sub-options were considered for each of the two major options discussed above. The first sub-option would require a participating hospital to provide 50% of their total beds; the second sub-option would require 25% of total beds. The third and fourth sub-options would require the hospital to make available either 100% or 50% of their unused bed capacity. The full option tree is illustrated in Exhibit IV-2.

With regard to readiness availability and the four representative sub-options, the first would result in the largest number of available beds. This configuration will facilitate the concentration of resources in a limited number of facilities which, in turn, will reduce management and control problems associated with the system. However, with these advantages comes the largest decrease in beds available for civilian use. Since the disruption of normal health care delivery patterns in civilian communities is to be avoided, this is not a preferred option.

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Exhibit IV-2

OPTION TREE



On the other hand, setting the maximum standard for bed allocation at the 50 percent of unused capacity level will have the least effect on the normal operation of the health care delivery system in communities with participating hospitals. Very few beds will be available from any one hospital, and this will necessitate participation by a larger number of hospitals, increasing the problems of administrative complexity.

The implications of adopting either the 100 percent of unused bed capacity sub-option or the 25 percent of total bed capacity sub-option are not so clear-cut. It is not clear how use of all of a hospital's empty beds would affect the normal delivery of health services for a short period of time. However, since seasonal fluctuations in capacity might result in the inability of an institution to provide a specific number of beds calculated on the basis of yearly average occupancy figures, 100 percent utilization of resources over time would cause a strain on most hospitals. A bed allocation of 25 percent of total bed capacity would generally place the same strains on a hospital.

However, it is important to note that occupancy rates play a significant role in determining whether the second or third sub-option provides more beds. For example, a 200-bed hospital with 90% occupancy would ordinarily have 50 beds available under the second option and 20 beds available under the third sub-option.

However, if the hospital's occupancy dropped to 60%, the third option would now yield 80 beds.

Exhibit IV-3 shows the results of applying each of the sub-options, with no minimum bed commitment, to the four alternative configurations discussed earlier. In the first alternative where 50% of the capacity of all short-term non-Federal is used, the number of beds is reduced to about 471,000, though this is hardly a realistic number. Where only 50% of the unused capacity is the criterion, only 117,000 beds are available.

Alternatives three and four begin to apply some geographic constraints, and the reductions are sharp. While there are 348,000 beds available in SMSA's, the calculations for 100% and 50% of unused capability show a drastic reduction in bed availability. The fourth alternative applies the standard of proximity to ASF; the numbers are relatively small, ranging from a high of 133,000 beds at 50% of total capacity to 30,000 beds at 50% of unused capacity.

Exhibit IV-4 shows the same alternatives with the same sup-options for use when the 50 bed minimum commitment has been used as a basic standard. The results of applying this criterion are dramatic. If the "50 bed minimum," "50% of unused capacity," and "proximity to ASF" were mandated, the beds available would drop from an estimated 30,000 to 9,300.

Exhibit IV-3

POTENTIAL NON-FEDERAL, SHORT-TERM HOSPITAL CONTINGENCY BEDS
BY ALTERNATIVE AND BY OPTION WITH NO SPECIFIC MINIMUM BED
COMMITMENT FOR EACH READINESS CAPABILITY OPTION

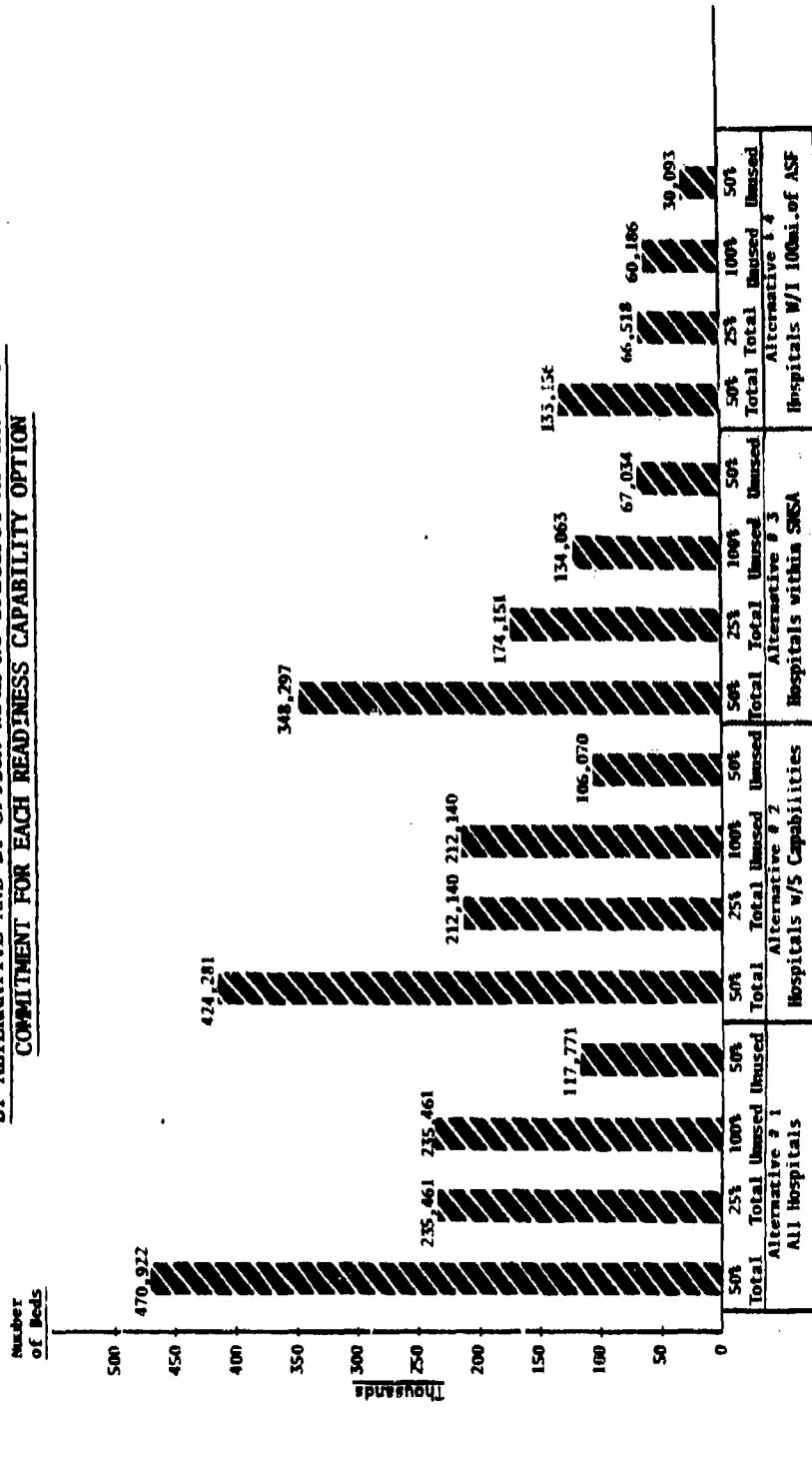


Exhibit IV-4

POTENTIAL NON-FEDERAL, SHORT TERM HOSPITAL CONTINGENCY BEDS
BY ALTERNATIVE AND BY OPTION WITH 50 BED MINIMUM
COMMITMENT FOR EACH READINESS CAPABILITY OPTION



As can be seen, placing a minimum commitment can have a decided effect on the shape and size of the system.

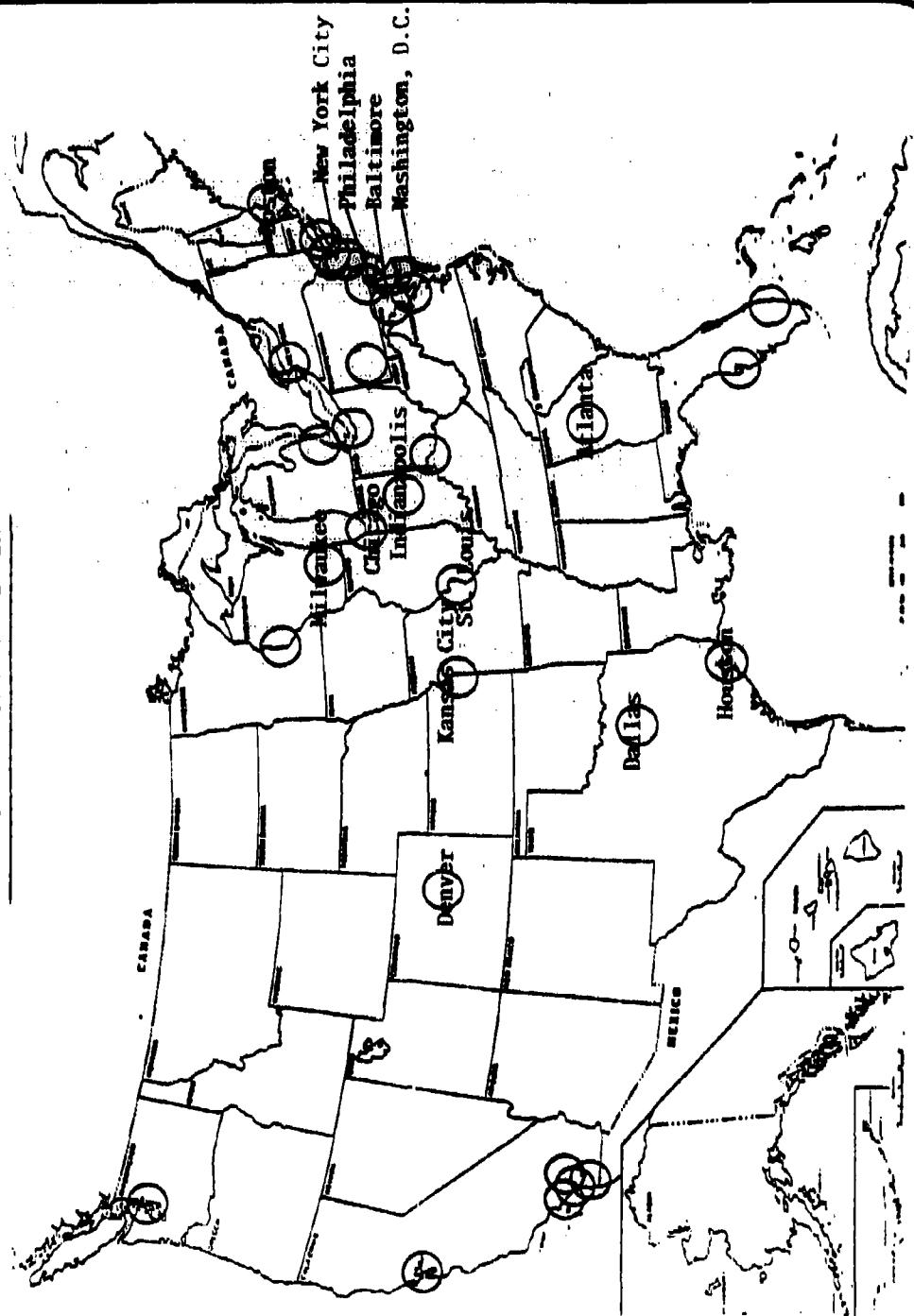
Although numbers do not reveal the inherent capability associated with developing a contingency hospital system, they do provide a rough estimate of potential hospital and bed capability. Experience gained in talking to hospital administrators and in exercising the model system, however, suggest that arbitrary numbers and fixed standards will lead not only to an incomplete system but also to a false perspective of actual capability.

2. Choosing CMCHS Locales

The analysis presented in Chapter II pointed clearly to the importance of more urban areas as locations for CMCHS hospitals. Urban centers have more hospitals, larger hospitals, more physicians, and more specialized care units, larger airports and better communications and transportation systems than smaller centers. Further, the middle Atlantic, South Atlantic, and East North Census regions contain the greatest number of hospital beds and are more advantageous than the Pacific or West North Central regions if patients are expected to arrive from Europe. Exhibit IV-5, illustrating the thirty largest population centers in the United States, shows that at least sixteen are located in the three regions mentioned. Exhibit IV-6 shows the locations of the twelve proposed Air Staging Facilities which would be major nexuses for air transportation

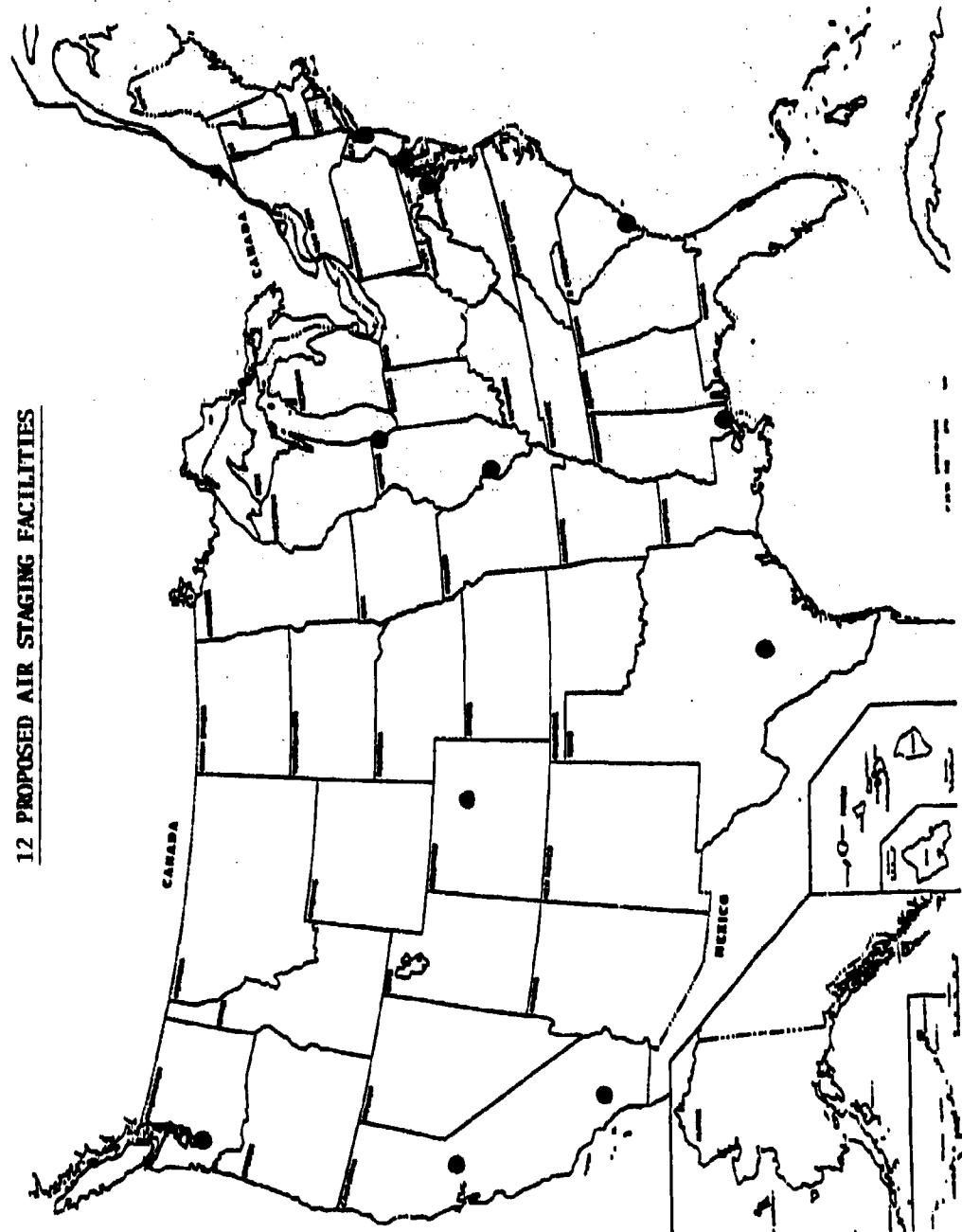
Exhibit IV-5

30 LARGEST POPULATION CENTERS



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Exhibit IV-6
12 PROPOSED AIR STAGING FACILITIES



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in emergencies. Six of these ASF's are in the three regions discussed above, and five of them are in the SMSA's convenient to flights returning from Europe. Thus, the logical places to begin establishing a CMCHS are the major urban areas of the East North Central, Middle Atlantic, and South Atlantic regions, where hospitals, manpower, and transportation all come together.

CONCLUSION NUMBER 1: The nucleus of the CMCHS should be located in urban areas primarily in the Middle Atlantic, South Atlantic and East North Central areas where hospital beds, specialized care, and medical manpower can most readily be united with air facilities capable of receiving large planes carrying casualties.

The specific cities that readily meet the above criteria, including proximity to the proposed ASF's, are New York City and its southern environs; Newark, New Jersey; Philadelphia, Pennsylvania; Wilmington, Delaware; Baltimore, Maryland; Washington, D.C.; Chicago, Illinois; and St. Louis, Missouri. However, because the ASF's are not yet in place, it may be unwise to tie a system strictly to them. What is favored instead is an emphasis upon certain areas as those most likely or, indeed, intended to receive patients directly from the theater of operations, whether through an ASF or not. These cities might well be the ones mentioned above.

Another set of areas might be designated as second priority locations for the system. Such areas as possible landing points for aircraft from Europe or those convenient to primary landing points if a domestic redistribution of

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casualties is necessary, would serve well. Similarly, a third order set of areas could be located and, again, hospitals enlisted in the program in case first and second priority areas could not provide sufficient beds. These third order locations could be in any area with a number of hospitals and a good airport, for example, New Orleans, Louisiana; Raleigh/Durham, North Carolina; or Salt Lake City, Utah. Exhibit IV-7 shows one possible arrangement: centers in black are in the first group, those in open circles are in the second, and those cross-hatched are in the third group.

CONCLUSION NUMBER 2: The nucleus of the system be located in those areas most likely to receive casualties first, with second and third levels of the system available if domestic redistribution is necessary.

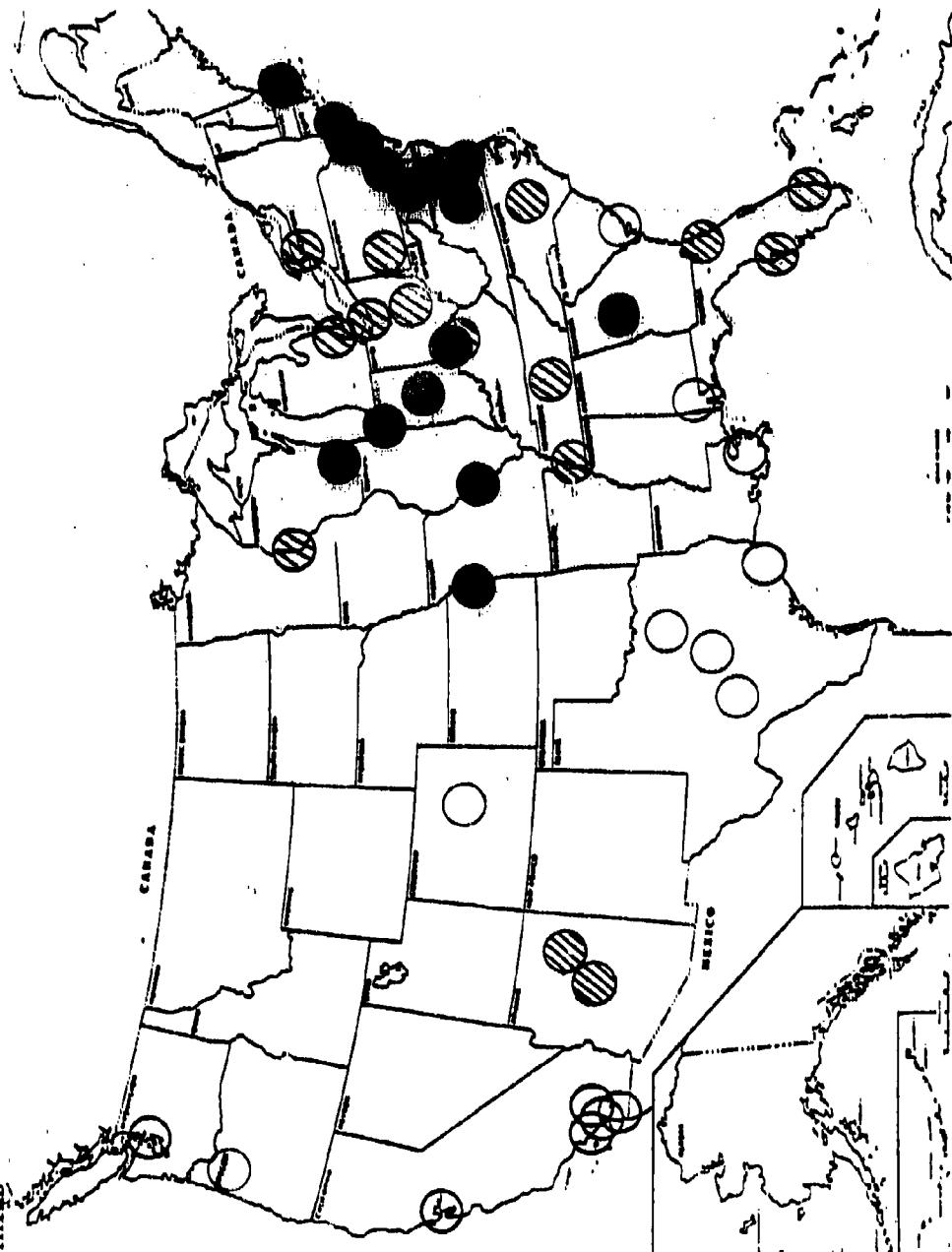
Exhibit IV-8 lists suggested priorities, areas, and potential bed numbers suggested for a phased implementation of CMCHS.

3. The Hospitals' Capability and Commitment

The general criteria for a CMCHS hospital are that it be an acute care, short-term, non-Federal, nongovernment facility with general medical, surgical, and psychiatric services. The hospital should have at least two hundred beds so that both a useful bed commitment can be made and the basic services are available.

Exhibit IV-7
POSSIBLE CMHS PRIORITY AREAS

- FIRST
- SECOND
- THIRD



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Exhibit IV-8

SUGGESTED CITIES RATED BY PRIORITY AREA AND NUMBERS

<u>FIRST PRIORITY</u>	<u>SECOND PRIORITY</u>	<u>THIRD PRIORITY</u>
New York City	7,110	Charleston, SC
Philadelphia	2,700	San Antonio
Baltimore	1,050	Mobile
Washington, D.C.	975	New Orleans
Chicago	3,850	Denver
St. Louis	1,300	San Francisco
Boston	1,600	Los Angeles
Atlanta	300	Portland
Indianapolis	600	Austin
Kansas City	675	Dallas
Milwaukee	625	Houston
Cincinnati	565	San Diego
Tidewater	425	
Richmond	175	
TOTAL	21,950	6,725
		10,720

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A tri-Service medical panel convened in July 1978 defined the capabilities they deemed important for participating hospitals. Ranked in five groups, these capabilities are shown in Exhibit IV-9. Baseline capabilities are in Group One; Group Two, including dental care, defines the necessary capabilities. Groups Three and Four add capabilities, and Group Five includes certain tertiary capability such as burn care, open heart surgery, and inpatient hemodialysis. Every hospital should have Group One capabilities, and patients should have easy access to Groups Two through Five, even if it is on a referral basis. A large number of facilities, including smaller ones, could meet Group One criteria; if Group Five were applied, only the largest, most specialized facilities would be selected.

CONCLUSION NUMBER 3: Any hospital participating in the CMCHS should be an acute care, short-term, nongovernment 200 bed (minimum) facility with general medical, surgical, and psychiatric capabilities, and at least the specific capabilities outlined for Group One in Exhibit IV-9. Initial implementation effort should attempt to link hospitals with Group Three capability.

The issue of bed commitment is a pithy one because, though it is important to DoD planners in designing the overall system, it could prove to be a difficult one to handle. Earlier in this Chapter commitments were discussed in terms of percentages of regular capacity and unused capacity. The present trend among local health planners is to decrease the number of beds in hospitals and to maximize the use of existing beds so that unused capacity is as close to zero as possible. The stated mandate of CMCHS is that it not interfere with the delivery

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Exhibit IV-9

CAPABILITY GROUPS

	<u>GROUP 1 (Basic)</u>	<u>GROUP 2 (Necessary)</u>	<u>GROUP 3 (Desired)</u>	<u>GROUP 4 (Useful)</u>	<u>GROUP 5 (Central)</u>
POSTOP. RECOVERY ROOM	X	X	X	X	X
INTENSIVE CARE UNIT	X	X	X	X	X
BLOOD BANK	X	X	X	X	X
RESPIRATORY THERAPY	X	X	X	X	X
PHYSICAL THERAPY	X	X	X	X	X
DENTAL SERVICE		X	X	X	X
PHARMACY			X	X	X
DIAGNOSTIC RADIOISOTOPES			X	X	X
ELECTROENCEPHALOGRAPHY				X	X
HISTOPATHOLOGY LAB					X
OCCUPATIONAL THERAPY					X
OPEN HEART SURGERY					X
INPATIENT HEMODIALYSIS					X
BURN CARE					X

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of civilian health care and, thus, in early discussions emphasis was placed upon unused capacity. This emphasis, however, met AHA opposition; specifically it was feared that a hospital's commitment of beds labeled "unused" could lead to decertification of those beds by local planning authorities.

It is not clear whether decertification is a problem. None of the hospitals participating in Nifty Nugget expressed any fears in this regard. Neither is it apparent that DoD should become embroiled in the politics of bed planning. However, DoD does require assurance of realistic commitment beds to its contingency missions. Thus DoD may need to be attentive to the issue of bed certification. One solution to this problem may be for DoD not to approach any hospital whose published average unoccupied capacity is less than 50 beds. Those hospitals approached should be asked to provide at least 50 or more beds based on the administrator's judgment. By asking for a number not tied to capacity, there may be none of the decertification complications mentioned above. This approach also gives some flexibility in that the number can be raised or lowered, depending upon the hospital administrator's judgment.

Except in the case of specialized services hospitals, a minimum of 30-50 beds in a 200-bed facility should be established as a base, and this should escalate with the size of the facility. In facilities which specialize in certain types of treatment such as burn cases, neurosurgery, and open heart surgery, the minimum of beds might be less.

Bed commitments should also be for specific types of beds, such as medical, surgical, burns (if possible), or psychiatric, and the distribution of such beds should generally reflect DoD planners' expectations for casualty mix.

CONCLUSION NUMBER 4: Most participating hospitals should be asked for a minimum commitment of beds that is roughly equal to 100 percent of the average unused capacity, though the number should not be described in those terms. A sliding minimum based on the size of the hospital should be employed, such that a 200-bed facility will commit at least 30 beds, distributed according to DoD estimates of the casualty mix.

This system of flexible commitment should yield as many beds as can reasonably be expected. DoD officials will have an idea of what type of commitment to expect, while hospital administrators will decide on their level of commitment based on knowledge of the hospital and the community.

4. Local Emergency Transportation

A key element in this contingency system is the availability of sufficient and appropriate local emergency transportation. Though such emergency transportation might be needed only on three or four occasions in a given area, it is practically impossible to create such transportation and the attendant communications systems on an ad hoc basis. This is especially true if the debarkation point is any appreciable

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distance from the hospital or if sophisticated life-saving equipment is needed for even one patient.

It is this consideration that leads to the involvement of the Emergency Medical Services programs in areas that have a potential for participating in CMCHS. In the Nifty Nugget exercise, EMS in both test areas exceeded expectations, showing great ability to move patients on short notice and coordinate emergency efforts without curtailing civilian service. Not all areas have EMS units that are as well developed and organized as those in the test areas, and in some metropolitan areas EMS is nonexistent, or nearly so. However, where EMS does exist, it forms the nucleus for the development of a system for handling military patients. Where there is no EMS, other arrangements for the transportation of accident victims are present in some form and must be carefully examined. EMS officials or their counterparts should be involved in all stages of the planning, development, and testing of CMCHS.

CONCLUSION NUMBER 5: EMS or other emergency transportation units must be included in the development of the CMCHS in each locale to provide the needed patient movement from airport to hospital. Any location where there is no EMS or equivalent organization, or where simple direct plans for adequate emergency transportation cannot be organized, should not be used for the CMCHS.

C. MANPOWER CONSIDERATIONS

1 Physicians

As noted earlier, university medical centers and teaching hospitals have house staffs of physicians and surgeons that can fairly easily be pressed into service for a system such as CMCHS. However, these hospitals account for only a small percentage of either the beds or the physicians needed for the system. The majority of the doctors needed for this effort will have to be recruited from private practice.

Although the number of hospitals and hospitals beds for CMCHS can be defined with some degree of certainty, this is not the case for physicians. It is simply an impossible task for DoD to define in advance and make individual linkage arrangements with all of the various civilian physicians which may be needed. Some alternative approach is required.

The hospital administrator is in the best position to identify the needs of his hospital for professional skills. In addition, he has tested methods of obtaining required skills from those physicians with privileges in his hospital. Most administrators, as part of their overall emergency plans, maintain a list of physicians available to treat patients in the event of a disaster or emergency. Advising physicians with privileges at participating hospitals of the system and en-

listing their cooperation will help to ensure that physicians are available if and when needed.

CONCLUSION NUMBER 6: Hospital administrators at participating hospitals should be tasked to obtain physicians for patients admitted under CMCHS. At minimum, the hospital should maintain a list of physicians as part of their emergency preparedness plans. A hospital without a list of physicians available for emergency duty shall not be permitted to participate in the system.

However, an emergency duty list may not necessarily solve the problem of physician availability, especially in urban areas where most of the doctors and hospitals are located. In addition to the general problem of competing demands for a limited pool of physicians during an emergency situation, there may be overlap and competing demand for a particular physician's services when the system is activated.

The problem of overlap of a physician's services may never be fully resolved, because physicians often have privileges in more than one hospital. Thus in an emergency, if patients go to two hospitals in the same area and a doctor has patients at both facilities, he may well receive two phone calls requesting his services at the same time. Again, the hospital administrator is in the best position to know of these potential conflicts and to develop methods of coping with them.

CONCLUSION NUMBER 7: Hospital administrators at participating hospitals should, as a part of their plans for CMCHS, develop procedures for coping with nonavailability of physicians and other critical staff.

The circumstances which would cause CMCHS to be activated would most likely also cause mobilization of reserve units and institution of the physician draft. Either of these actions could impact on the ability of CMCHS hospitals to deliver health care. Both pose conflict among DoD programs designed to achieve military health goals. The size and intended use of the active force, reserve members, drafted physicians, and the CMCHS are interrelated issues.

Current doctor draft procedures intend to induct the youngest residents first. This procedure would impact upon university hospitals and teaching facilities which could lose a substantial portion of the young doctors who provide much of the day-to-day medical care. The effect in other hospitals would be minimal until the age of draftees includes physicians with their own practices. At that point, the entire CMCHS would be affected. In short, the more physicians drafted, the older the draftees become, and thus the more dramatic the effect upon CMCHS.

The draft creates other problems. Since most physicians practice in urban areas, deferment for even a percentage of them might shift the brunt of induction to other locations.

This could lead to a marked decline of medical service in the CMCHS activities of the medical and dental corps in non-CMCHS urban areas or the removal of physicians from underserved areas, neither of which is a palatable option. Another problem is that current procedures for inducting and commissioning physicians can cause delays of several months before the physician actually reports for military duty. Although solutions to these problems can be devised, an overall view of timing and number of physicians required and their relative value in a CMCHS hospital versus on active duty must be considered.

At present, the number of physicians in Reserves is small, and a mobilization of these men would not sharply curtail CMCHS activities. Again, the university hospitals would be affected first, and CMCHS affected if additional Reserve physicians in urban areas were called. Some attention should be given to examining the relationship between proposed Reserve component increases and this proposed contingency system.

A number of options in this area are worth considering. The first, as suggested above, is to defer physicians at participating hospitals, or to delay their induction, for some specified period of time, say 180 days. This would enable them to serve CMCHS in the initial stages of a conflict and would provide the option of bringing them into the service if still needed.

Reserve units, volunteers, and draftees from non-CMCHS areas could fill out the Active Duty medical units during the deferred period.

Another alternative is to create special medical reserve units or "cells" at participating hospitals. Mobilized physicians would report for duty to the designated CMCHS hospital. Again, the manpower would be available in the initial stages of a conflict with the option of combining "cells" or units for use in the theater if the need continues. The problems here are incentives, flexibility in assigning individual physicians, and hospital attrition from the system. It is not clear how many physicians would be willing to join such units, and the impact of reduction in Service flexibility to assign reserve officers may be underestimated. But the possibility of hospitals with reserve units withdrawing if they desire is a more difficult issue.

Similarly, health planners will have to decide what to do with individuals in Reserve units who become involved with the contingency system. The question, simply put, is: Where does the physician or unit serve the greatest need or have the greatest value? If CMCHS is implemented and if the medical reserve units are strengthened, choices will have to be made.

CONCLUSION NUMBER 8: If it is decided to implement CMCHS, the roles and relationships of Active Duty, Reserves Forces, and CMCHS physicians should be examined to determine an optimal configuration for each in light of total anticipated need.

2. Allied Health Professionals and Hospital Support Staff

It is anticipated that participating hospitals will provide the allied health professionals and support staff for the system as a function of their normal operations. Because these professionals and staff are essential to the smooth operation of a hospital, the impact of a draft on this group must be considered. In most urban areas, cooks, janitors, and receptionists would be easy enough to replace with workers beyond draft age. However, X-ray technologists, dieticians, and surgical aides, for whom there will be a demand both in CMCHS and the draft, pose a more difficult problem. The options available are much the same as for physicians and should be reviewed just as carefully for allied health professionals.

D. ORGANIZATION AND CONTROL OF THE SYSTEM

The CMCHS is a new departure in contingency planning, and as such, requires that new procedures and new organizational arrangements be developed. Although some changes in civilian hospital or military procedures may be required, they should

be minimal if only for the sake of simplicity and ready acceptance. To this end, every effort has been made to identify and link CMCHS actions and duties to appropriate existing DoD organizations. Further, every attempt has been made to minimize the administrative superstructure in both peacetime and war, and to limit costs particularly in peacetime. A description of the component parts of this superstructure follows.

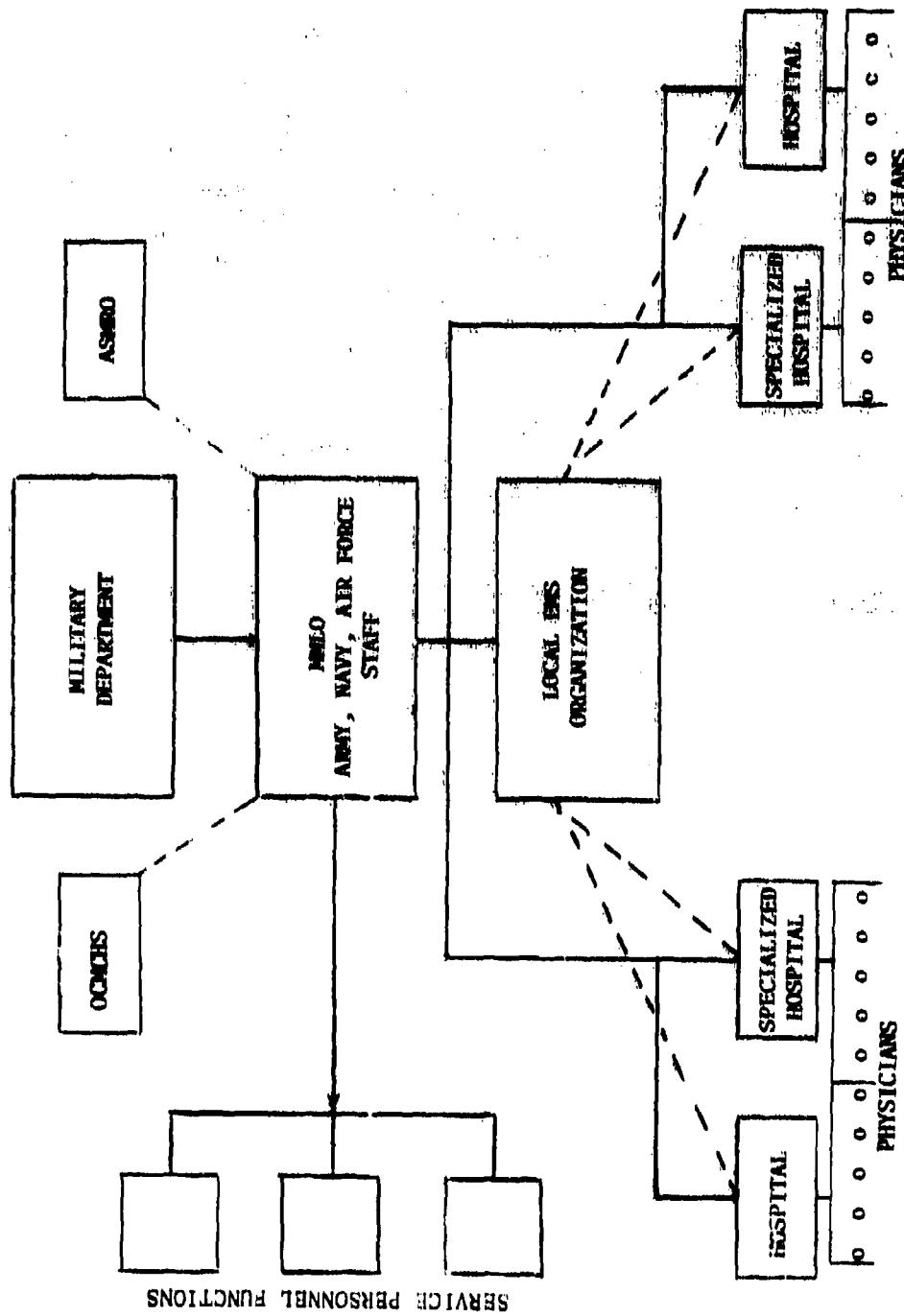
1. Local Organization

One of the most widely conceded lessons learned during the Nifty Nugget Exercise was that some type of local military liaison with the civilian hospitals was necessary. The hospitals in Tidewater which had such liaison noted its importance; those in Philadelphia, who lacked such close contact, remarked that they would have been more comfortable with someone on the scene. Thus, in analyzing the available resources, the potential locations for CMCHS facilities, and the need for a smoothly working system, an organization based upon a local Military Medical Liaison Office (MMLO) was developed. The MMLO would interact with participating local health facilities as depicted in Exhibit IV-10, linking military requirements for beds to the civilian supply of facilities and care.

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Exhibit IV-10

LOCAL MELO LINKAGES



The MMLO would be assigned to each major urban area which has sufficient hospital beds and adequate emergency transportation to make it a viable location for CMCHS activities. In a city such as Philadelphia, for example, there would probably be only one MMLO serving as liaison even if hospitals in adjoining cities or counties were used. In the largest metropolitan areas, such as New York or Chicago, it may be necessary to divide the territory into a number of districts, each with its own MMLO, in order to avoid overburdening a single office.

Although the issue of Veteran's Administration participation is currently under study, it may prove efficient to link day-to-day operation of VA hospitals through the MMLO. The level and timing of bed commitment to DoD could be made centrally, but actual operations would be part of the local MMLO area of CMCHS.

Wherever possible, the MMLO should be located at a military hospital in order to ease communication and office problems and to locate, train, and test MMLO staff more readily. Where a military hospital is not sufficiently close, MMLO staff should be assigned to the nearest military hospital but located within the metro area of participating hospitals, e.g., in a Federal building.

The local MMLO system offers a number of advantages that a centralized system or organization based solely upon military hospitals or DoD medical regions does not. In the first place,

the MMLO can be established wherever it is needed, and it can provide direct and quick access to a DoD representative for problems or questions that the hospitals might have. This local arrangement hopefully will permit the liaison staff to become acquainted with the civilian administrators and the capabilities and potential of their hospitals and EMS units. Even with personnel changes on both military and civilian sides, the interaction in briefings and tests between the two locally based organizations will promote a sense of what needs to be done and how to do it.

Staffing of the MMLO's should be divided as evenly as possible among the three services, based upon the proximity of service hospitals to the CMCHS areas. For example, in Chicago and Philadelphia the Navy would be responsible for MMLO staffing; in Washington, D.C. or Denver the Army would be responsible and the Air Force could provide staff in St. Louis. Each MMLO should have at least one officer and four enlisted men assigned to it in order to ensure round-the-clock coverage in emergency situations. Additional staff may be required, depending upon the number of patients in the area. The officer at least, and preferably the enlisted men as well, should be versed not only in CMCHS operations, but general military health care practices and procedures as well. Although the duties to be performed are sometimes detached, they are not overly technical, and although constant interaction will be unnecessary,

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someone should be available to respond or make required decisions. The workload will come in surges, especially at first, but the structure and staff proposed can hopefully meet these surges while diverting as little manpower as possible from other activities.

The duties of the MMLO are diverse, requiring a flexible, well-trained, and well-informed staff. The most important function of the MMLO is to obtain data on bed availability from participating hospitals and, on the basis of this information, to regulate arriving patients to appropriate open beds. The MMLO will also keep the EMS organizations advised about the number and timing of arrivals. All matters or problems concerned with patient administration—such as change of status, request for leave, or return to duty—will be sent from the hospital to the MMLO, which will forward the data to the appropriate Service personnel function. Replies and orders will be funnelled back through the MMLO. This function will require that each MMLO be well aware of whom to contact for a wide range of issues. Bills and statements for payment will also be approved by the MMLO and forwarded for payment, as described below. (Exhibit IV-10 above diagrams the lines of communication for a single MMLO.)

CONCLUSION NUMBER 9: To administer the CMCHS on the local level, a series of Military Medical Liaison Offices should be created to link civilian hospitals and Veterans' Administration medical centers to the military system, to regulate patients within MMLO areas, and to handle

patient administration and payment matters. These MMLO's should be located at military hospitals in CMCHS areas where possible, and staffed preferably by MSC officers who have been trained in CMCHS operations and who are familiar with the civilian hospitals in that area.

2. Office of Civilian-Military Contingency Hospital System (OCMCHS)

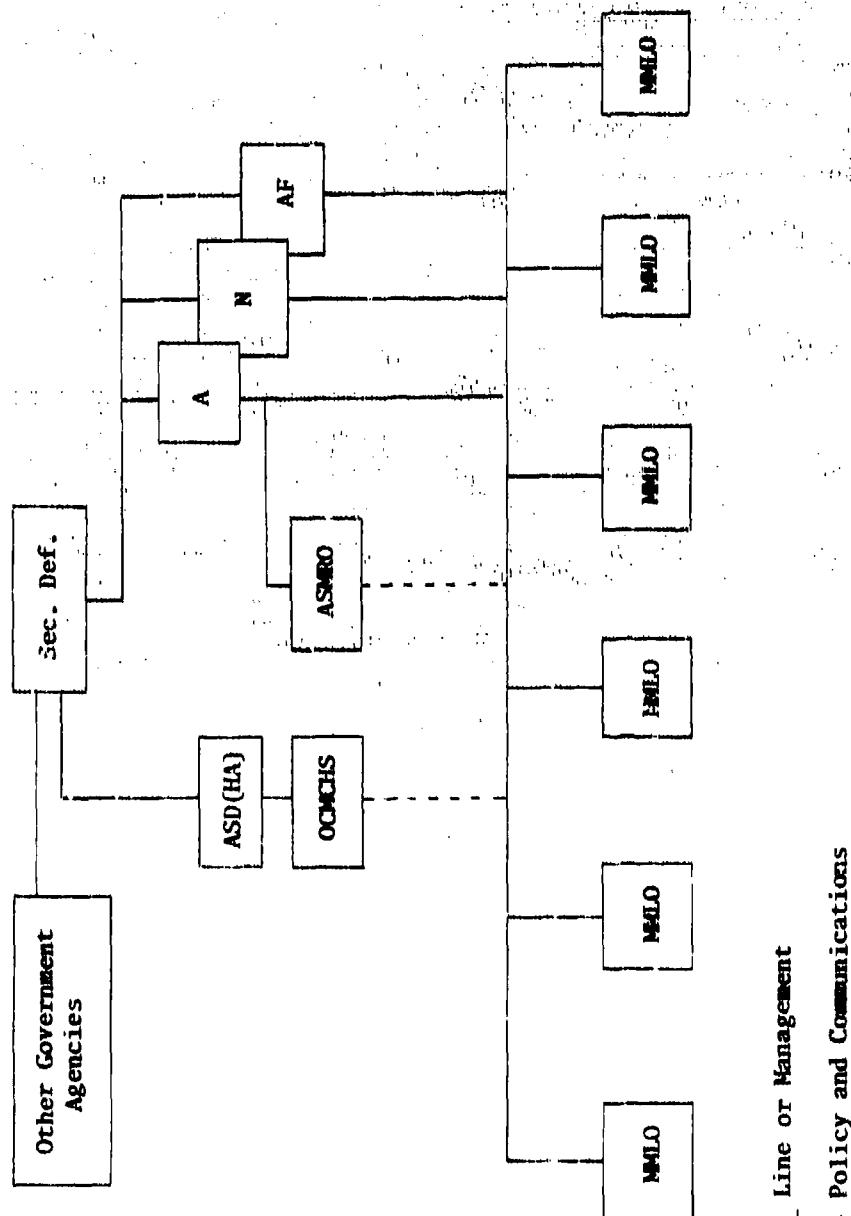
Organizing, implementing, and maintaining a viable CMCHS will be a substantial undertaking. It will require considerable time and effort and continuing attention and assessment. The system may eventually control a very large segment of bed capability intended for support of military patients. Thus it deserves appropriate organizational structure, purpose, and staffing.

OCMCHS could be positioned organizationally under a single Service executive agent, as is the case with the Armed Services Medical Regulating Office (ASMRO). Or it might be placed directly under OASD(HA) as is the CHAMPUS program. There are a number of advantages and disadvantages associated with each of these options. But OCMCHS requires visibility. It needs sufficient authority to deal independently with civilian, VA, and military health systems. And it must have the ability to raise problems to the level at which decisions can be obtained. These criteria seem easier to meet at the OASD(HA) level.

(See Exhibit IV-11.)

Exhibit IV-11

CONTROL STRUCTURE FOR CGCS



Line or Management

Policy and Communications

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The purpose and mission of OCMCHS are proposed in greater detail in Appendix E. Among the functions and duties are the following:

- Organize CMCHS.
- Develop MMLO areas.
- Train MMLO staffs.
- Formulate and gain agreement on operating procedures between CMCHS and ASMRO, Military Medical and Personnel Systems, and others as appropriate.
- Formulate and supervise negotiation and renegotiation of contracts and agreements.
- Supervise training and exercise of participating hospitals.
- Develop and propose methods of protecting staffs at participating hospitals.
- Develop and promulgate criteria for MMLO review of hospital and physician billings.
- Develop plans for wartime expansion.
- When ordered, alert and activate CMCHS.
- Monitor operation of the system.
- Maintain liaison with the Surgeons General, AIA, AMA, ASMRO, and other appropriate civilian and military organizations.

To accomplish this mission, the Office of CMCHS will require a staff. Initially, the staff might be as small as two (2) officers, three (3) enlisted personnel, and one (1) secretary. With travel money and availability of consultant support, a staff of this size can probably achieve the functions proposed for implementation during the first year. Subsequent

staffing should be premised on analysis of initial results.

CONCLUSION NUMBER 10: An Office of CMCHS should be organized under OASD(HA), and staffed and funded to achieve its specified mission.

3. Interrelationship With Armed Services Medical Regulating Office (ASMRO)

Each MMLO cannot be in contact with the JMRO in Europe or elsewhere which dispatches evacuees to CONUS; therefore, close coordination with ASMRO is necessary. The function of ASMRO is already established: it collects data on bed availability, advises JMRO of the numbers and types of beds available in different locations, and regulates patients to open beds. Each MMLO will report to the ASMRO the number of beds in each category available in its area. Using these data, ASMRO can advise the JMRO and regulate patients to available beds.

The role of the ASMRO is crucial. It must serve as a connecting point between the theater of operations and the MMLO's and local hospitals. ASMRO has a broad overview of availability of beds, and by proper management, it can avoid overloading local beds or overwhelming local capability to handle initial care of large numbers of casualties at once.

Some changes are required in the way patients are regulated in mass casualty situations. First, there is a recognized need to enlarge the patient diagnosis categories beyond the current three basic groups (medical, surgical, and

psychiatric). This was borne out by events in the Nifty Nugget test, when civilian hospitals remarked that time and effort were wasted in receiving and triaging types of patients they would not or could not handle. A case in point is that none of the major Philadelphia hospitals treat burn patients, but refer them to smaller burn centers. If burns were included as a category, both the MMLO and the transportation people could act more expeditiously, and ASMRO and JMRO could have a better idea of where to send such patients.

A second and related problem is that even under emergency situations all patients are regulated by name to a specific hospital. This system works well enough when the patient flow and number of hospitals are small. However, in a situation where there are thousands of patients and hundreds of participating hospitals, the communications problems between MMLO and ASMRO, and especially between ASMRO and JMRO, become enormous. Error, omission, and delay will result. It would be simpler for each MMLO to report an aggregate number of beds by category to ASMRO and for ASMRO to regulate numbers of patients to MMLO areas. Each MMLO area would have designated and alternate debarkation points, e.g., local civilian or military airports, and the MMLO would be tasked to inform the appropriate military office of the arrival and specific location of each military patient in his area.

CONCLUSION NUMBER 11: The number of ASMRO patient classifications should be expanded. Patients should be regulated into MMLO areas rather than to specific CMCHS hospitals.

E. CONCEPT OF OPERATIONS

Thus far the outline of the system and the criteria for participation have been discussed. Before going further, it is useful to sketch the alert, activation, and operating procedures of CMCHS and the probable flow of events.

1. Probable Flow of Events

Obviously, for this system to be called upon, international events would have reached crisis stage, and in all probability a state of national emergency or mobilization would have been declared by the President. CMCHS would be placed on alert by order of the Secretary of Defense. Various DoD offices and civilian agencies would be advised of this alert. Upon receiving this notice, OCMCHS would advise the MMLO's of the alert. MMLO's that needed to move into position would make such moves as quickly as possible. The MMLO's, in turn, would advise the participating hospitals in their areas that the system was being alerted, and that the hospitals should begin reporting on bed availability by bed category on a strict schedule starting the following day.

On the day following alert, information will be reported by the hospitals to the MMLO's, using report format #1 (see Exhibit III-5, page 88), who will aggregate these data by

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category and pass them to ASMRO. Daily bed status information provides the basis for patient regulation, and reporting should continue throughout the time the system is in operation. When placed on alert, participating hospitals should not discharge patients or take any other action to clear its committed beds, but should review its plans for making the committed beds available to CMCHS. Any anticipated hospital problems such as shortage of supplies, physicians, or other emergency situations should be reported to the MMLO following alert.

The system may well be on alert for a number of days before activation occurs. However, when the casualty flow begins, or when it appears that available military and Federal sector hospitals will be filled, ASMRO should advise OASD(HA) of the level and timing of need for additional beds. OASD(HA) may order activation of CMCHS when the services of the MMLO's, the hospitals, and EMS units are required within 24 to 48 hours.

On the basis of data provided by the MMLO's about bed availability, ASMRO will advise JMRO of the number and types of patients to be sent to each MMLO area. At the same time, ASMRO will advise each MMLO of the numbers of patients and their anticipated time of arrival. The MMLO, in turn, will advise the local EMS and hospitals.

At present, no system of advance notice of patient arrival exists; the evacuation craft simply arrives. In order to facilitate the operation of the system, some type of

communication prior to the actual arrival of the patients should be developed. ASMRO frequently does not have this information at the time patient regulating decisions are made. Presumably, the organization controlling the aircraft or the pilot himself could give the MMLO a few hours' advance notice of patient arrivals.

The EMS systems tested in the Nifty Nugget exercise were able to respond promptly with little notice and to handle the patients expeditiously. Hospital administrators will have to locate the required physicians and make the other arrangements necessary for the prompt treatment of the patients. In general, it appears that this task can be accomplished on a timely basis.

2. Reports

During the activation of CMCHS, hospitals will be required to file a number of reports. Within twenty-four hours of receiving the patients, the first report, giving the name, grade, service, and other pertinent data on each patient must be filed with the MMLO. Exhibit IV-12 illustrates the basic format and required information. This information will be forwarded to the appropriate Service personnel functions so that the Services have constant knowledge of the location of their personnel. As will be noted, all reports and forms are to be kept as simple as possible in order to minimize the burden on the civilian hospital.

Exhibit IV-12

Report Format: ADMISSIONS

FROM:

(NAME AND ADDRESS OF HOSPITAL)

DATE

TO:

(MILITARY LIAISON OFFICE)

SUBJECT: REPORT OF ADMISSIONS (CMGHS Report #2)

1. The following military patients were admitted this date:
(Repeat for each patient)
 - a. Name
 - b. Grade
 - c. Military Service
 - d. Social Security Number
 - e. Date of Birth
 - f. Diagnosis, primary and secondary
 - g. Condition (after initial treatment)
 - h. Estimated length of stay

2. TOTAL number of patients admitted this date: _____

Another type of report is the "Change in Patient Status/Request for Instructions," to be filed only if there is a significant change in the patient's medical status, i.e., if the patient is placed on or removed from the critical or serious list, or if there is a required or specific request from or about the patient. Routine status reporting will not be required.

The Military Medical Liaison Office should be notified 48 hours in advance of a patient's:

- availability for return to full duty (request information on military post to which patient should be transferred and travel funds (TR) for each patient);
- need for transfer to a nonlocal hospital for special care, disability hearings, or other purposes.

There may be instances in which the physician or the hospital may seek instructions about what to do with a particular patient. The patient may need specialized care, e.g., for burns, which is not readily available, or he may be a potential disability or long-term care case for which guidance may be needed. Also, a patient may wish to have his paycheck sent to him, may request leave, or may make some other inquiry. In all of these cases, the MMLO should be asked for guidance.

The final type of report, a Disposition Report, advises the Military Medical Liaison Office of the final disposition of patients that have been in a participating hospital. This report includes a variety of events or conditions, but in

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particular it notifies the MMLO of:

- return to duty;
- transfer to another hospital;
- absence without authority;
- death; or
- condition of dead on arrival.

This report should be made within twenty-four hours of the event.

Upon receiving a disposition report, the MMLO will advise the appropriate service personnel function(s), and if information is needed where a patient is to report for return to duty, the MMLO will advise the hospital as soon as possible.

It should also be noted that guidelines have been proposed relating to patient stay in civilian hospitals. The average length of stay in civilian hospitals is very short when compared to probable length of stay for military casualties ready for return to duty, because civilians are discharged to their homes for further convalescence. Military patients returned to duty, however, generally are expected to resume some degree of activity; thus, their hospital stay, including convalescence, is longer. In order to prevent CMCHS hospitals from becoming loaded with longterm military patients—which might not only cut into civilian care, but limit resources available to military patients—criteria are proposed for deciding disposition of military patients. Three patient groups

and associated actions are noted in Exhibit IV-13.

Patients in Group 1 can expect to spend their entire treatment period in the civilian hospital. The CMCHS hospital might be authorized to grant short periods of convalescence leave. But return to full duty would occur within 30 days of admission.

Group 2 presupposes that some arrangements will be made for the transfer of such patients to a light care facility, to the Military Health Services System (MHSS), perhaps to the VA, or even given convalescent leave. It is anticipated that these patients would be transferred as soon as they were out of the acute care phase and suitable arrangements could be made by the MMLO.

Group 3 includes long-term patients and disability cases. The presumption is that any patient requiring more than 180 days of hospitalization will not be returned to active service and, thus, becomes eligible for military separation and admission to the Veterans' Administration hospital system. The patient's transfer would occur immediately. Administrative determination and procedures on actual disability and separation would be accomplished later.

The purpose of the patient groupings is not to make impromptu decisions about the future military status of patients, but rather to clear the short-term CMCHS hospitals of long-term patients. Multiple handling of patients could be reduced if

Exhibit IV-13

GUIDELINES FOR PATIENT GROUPS

<u>Patient Group</u>	<u>If on Admission the estimated patient stay to full recovery is</u>	<u>Then the hospital should</u>	<u>After acute care</u>	<u>On discharge</u>
1	< 30 days	hold to full recovery	hold for convalescent period	send to nearest military authority
2	≥ 30 - 180 days	hold thru acute phase of care	request instructions from Military Liaison Office	e.g., convalescent leave tr. to MSS tr. to W. tr. to light care facility
3	≥ 180 days		stabilize & transfer to W. hospital	as soon as possible

theater hospitals or ASF's were to make the patient group judgment and inform the MMLO coincident with patient arrivals.

F. AGREEMENTS WITH HOSPITALS AND PAYMENT MECHANISMS

Two principal types of agreements are available to secure hospital participation in the CMCHS, one more binding than other. The focus of this section is on the two types of arrangements that can be made and on proposed payment procedures. Details on locating and enlisting hospitals are provided in Chapter VI.

1. Agreements

The first type of arrangement, and the most binding, is the contract. A contract could serve simply to enlist the hospital in the CMCHS for a given period of time and, perhaps, conduct tests of the system for which the hospital would receive some remuneration. Additional clauses could specify that if, during the term of the contract, it was necessary to activate the system, the hospital would agree to treat military patients up to a given number (the commitment) and be paid at whatever rate or terms were agreed upon. This would have the effect of locking the hospital into the system for nominal sums of money. These contracts could be administered by OCMCHS or its designate.

A second alternative is to sign informal agreements with hospitals. These agreements simply state that under certain

prescribed circumstances, DoD could count on a given hospital to make available a certain number of beds for military patients. Since there is no consideration given, there is no contract and no binding commitment. On the other hand, informal letters of intent provide a method of assessing both hospital interest and availability of beds should the need arise. These benefits are achieved without either party making a firm commitment or spending any funds. Again, OCMCHS or its designate should oversee this operation. In many respects, this is much the same as establishing a mobilization base for machine tools, for example, in that all of the required equipment is located and the necessary people contacted and advised of the defense need, though no further action is taken.

These two methods—formal contracts and informal agreements—serve the same end. The governing factors are DoD's desire to have a formal commitment, the availability of funds to secure that level of commitment, and the hospital's preference for tight versus informal agreement. The contract certainly provides a firmer planning base, and would aid in auxiliary aspects such as periodic testing of the system.

However, the system may be one that changes with time. Yearly review and renewal of participating hospitals is envisioned and periodic testing of the entire structure is planned. The yearly review and renewal would serve to ensure that only interested and capable hospitals were in the system. Changes

in capabilities, equipment, and personnel could be evaluated, and hospitals that were no longer interested or suitable could be dropped.

A full-scale command post exercise ought to be staged at least every two years to test all aspects of the system, with yearly exercises to test local operational capabilities. CMCHS is an emergency system that could be called on very short notice to support national military operations. There is no room or time for organizations that are not prepared. Such exercises could be conducted for a minimal expenditure, yet they would lead not only to improved readiness, but to illumination of weak points in the structure of the system. Provisions for exercise of the system should be included in any type of agreement that is made.

CONCLUSION NUMBER 12: Regardless of the type of arrangements made with participating hospitals, provisions for a yearly renewal of participation and for testing the system should be included.

2. Payment

Payment is a sensitive issue for all parties of this system, as was learned early in the research. The hospitals and, in all probability, the doctors are opposed to any sort of formula for paying for services. Medicare and Medicaid payment schemes are held in particularly low regard.

DoD's objective in implementing CMCHS is to assure the availability of beds to care for and promptly return to duty

military patients in time of war. Adoption of controversial payment mechanisms will only hinder implementation of such a system. There is current precedent for DoD paying charges for care of active duty patients. Thus, DoD should avoid the controversy and rely on other mechanisms to control cost in time of emergency.

CONCLUSION NUMBER 13: For the sake of simplicity and good will, CMCHS should agree to pay charges to both hospitals and physicians.

However, stating that DoD will pay charges and seeing that it is done are two different things. Some mechanism must be developed to see that fair and legitimate claims for services rendered are promptly paid. To this end, it may be practical and appropriate for hospitals and doctors to submit their statements to the MMLO who, knowing the names and conditions of patients in his area and knowing the prevailing rates for services, could approve them for payment and forward them to the appropriate disbursing office. Although this is certainly not a foolproof system, it would assure some degree of local review and examination, as well as promptness in handling. The patients themselves would not be involved in the process.

To further facilitate prompt payment, each MMLO, which is administered and staffed by one of the Services, will forward all claims for payment for Servicemen of all branches to its particular disbursing office. It is planned that among the

first items to go to Congress with any emergency war package would be a request for an appropriation of funds to pay for this medical care. These funds could be put in a pool, available to each of the Services so that each could draw upon the pool to the extent necessary. It would not matter that an Army patient's bill is paid by an Air Force unit. Each of the Services has its own disbursing mechanism and a payment system such as has been described could easily be attached to the existing framework.

CONCLUSION NUMBER 14: An emergency pool of funds available for medical services for wartime casualties should be available to all Services on an as-needed basis, so that claims for payment from hospitals and doctors based on usual and customary charges, could be promptly paid after being received, reviewed and forwarded by MMLO's for payment.

G. INTERAGENCY COORDINATION

The basic premise of this system is that it will not interfere with civilian health care delivery and, if there is no "competition" for health resources, then the rules, procedures, and oversight requirements associated with resource allocation need not be brought into play. This system is intended to operate on the margin of civilian health care resources and, as such, can be created, administered, and used by DoD without seeking advice, guidance, or assistance from other agencies. The basis for this premise is developed further in Chapter V.

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This is not to say, however, that CMCHS can or should be created in isolation. Such a system will affect many hospitals, place certain demands on supplies of medical goods, and influence considerations on health manpower issues. For this reason, agencies such as the VA, DHEW, PHS, DOL, and FEMA should be advised of the status of the system, asked to observe, if not participate, in tests of the system, and be kept generally informed about it. In this fashion, any problems can be solved or at least raised before a crisis, and these other agencies will be familiar with the system and its aims.

CONCLUSION NUMBER 15: Other agencies whose activities might bear upon CMCHS should be advised of the status of the system on a routine basis.

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CHAPTER V

THE AUTHORITY FOR CMCHS

V. THE AUTHORITY FOR CMCHS

A. PURPOSE OF CHAPTER

Although DoD policy has stated that military wartime requirements for hospitals and medical personnel should be met by civilian manpower and facilities, neither a plan, nor the authority needed to accomplish that plan, has been rigorously examined to date. The aim of this Chapter is to describe the sources of authority for such a plan. Alternative sources of authority are also considered, and initial conclusions are made concerning the most viable means of relying upon the civilian sector for medical assistance in time of war.

B. THE AUTHORITY NEEDED TO IMPLEMENT THE CMCHS

There are two types of authority necessary to implement the CMCHS. The first, and more obvious, deals with the authority to let contracts, arrange for services, and make payments. Specifically, it involves contracting with hospitals and physicians to provide care for military casualties to and from the selected hospitals, and providing payment for services rendered.

The second type of authority involves a much broader perspective—that of emergency planning and interagency communication. This authority to plan and advise others of that planning must be clearly defined so that plans are not duplicative or contradictory, and so that all involved parties are informed.

C. PLANNING AUTHORITY

1. The Defense Production Act of 1950 (DPA)

The Defense Production Act (DPA) of 1950, as amended, is the primary source of mobilization planning authority.¹ This Act was passed in September, 1950, to provide guidance and organization for the economic effort needed to support American participation in the Korean Conflict. The central portion of the Act, which provides the President the authority to establish priorities for defense contracts and orders and to allocate materials and facilities, has remained in force continuously. The original Act also provides the authority for (1) requisition and condemnation of property, (2) expansion of the productive capacity of the nation, (3) wage and price stabilization, and (4) control of consumer and real estate credit. The authority for wage and price control and for requisitioning were permitted to lapse quickly after the Conflict, and other elements were gradually phased out. Sections pertaining to critical and strategic materials and domestic energy supplies have been added over the years.

However, Section 2061 of the Act, which states that the present mobilization effort "requires the development of preparedness programs," is the key section for planning authority.²

Though the main focus of the Act is upon resource allocation and priorities, this clause is the source of authority for a complex program of national nonmilitary planning for mobilization and emergencies. Indeed, a whole system of research and coordinated planning has evolved in the past twenty-eight years.

It should be noted that there has generally been little opposition to the continued renewal of the DPA. Committee reports on bills to extend the DPA have stressed that since this Act is "the nation's sole authority for national defense preparedness and represents the cornerstone of the present legal structure supporting preparedness programs, its uninterrupted continuation is essential to the national security."³ It has been argued that the ongoing nature of the DPA programs not only permits "cost and scheduling advantages" in peacetime procurement, but "enhances readiness for conversion to wartime production," as well. Further, defense officials feel that future efforts to mobilize for a short but costly war will involve "surge requirements" in certain sectors of industry; thus, the DPA becomes all the more critical in providing a swift and decisive American response.⁴

2. Executive Order 11490

Executive Order 11490, as amended by Executive Order 11921, translates the broad mandate for planning set forth in the DPA into specific programs and responsibilities for the several

Departments and agencies of the Federal government. The Department of Defense has the major responsibility of planning for military readiness, and the functions assigned to the agencies in this Executive Order are to complement the military readiness plans of DoD. The Executive Order assigns to DoD a number of tasks, including the following:

(20) Develop plans and procedures for the Department of Defense utilization of non-industrial facilities in the event of an emergency in order to reduce requirements for new construction and to provide facilities in a minimum period of time.

It should be noted that, although the activities undertaken in accordance with Executive Order 11490 are subject to the guidance and evaluation of the Federal Preparedness Agency (FPA), nowhere in the Order is it stated that the FPA or any other agency can cancel or disapprove the plans made by another agency.

The Defense Production Act of 1950 provides the authority for the planning required by Section 401(20) of Executive Order 11490. Creating a plan for the use of hospitals to treat military patients in an emergency would come under the heading of using nonindustrial facilities, and such a plan would achieve the goals of reducing construction requirements and providing facilities in a minimum period of time.

3. DoD Directive 3005.2

This Department of Defense Directive concerning the mobilization and use of nonindustrial facilities appears to

include hospitals within its purview; indeed, they are listed as an example of a nonindustrial facility. However, in the text of the Directive no substantive guidance or procedures are set forth for dealing with institutions as complex or significant as hospitals, though former hospitals and military facilities are discussed. Directive 3005.2 calls for an "allocation" plan in which the Military Departments coordinate their nonindustrial facilities requirements through and with the regional offices of the FPA. This method, however, is cumbersome, time-consuming, and not as flexible as the proposed system, which, it must be recalled, is intended to use only a fraction of the total bed capacity of any given facility. Finally, Directive 3005.2 appears to envision a passive, stand-by system in which no firm obligation is made or compensation offered, contrary to the active system described earlier.

D. CONTRACTUAL AUTHORITY

1. DoD Contract Authority

The use of civilian hospital facilities for treating military casualties in wartime can be secured by negotiating a contract for such use. Statutes governing procurement note that this "chapter applies to the purchase, and contract to purchase, by any of the following agencies. . . ., of all property named {below}, and all services, for which payment is to be made from

appropriated funds. . . ."⁷ The following section states that formal advertising shall be used to make purchases and contracts for property and services if "feasible and practicable under the existing conditions and circumstances." If not, the head of an agency "may negotiate such a purchase or contract if . . . (16) he determines that (A) it is in the interest of national defense to have a plant, mine, or other facility, . . . available for furnishing property or services in case of a national emergency"

Other clauses which might pertain in other instances are:

- (4) the purchase or contract is for personal or professional services;
- (5) the purchase or contract is for any service by a university, college, or other educational institution;
- (7) the purchase or contract is for medicine or medical supplies;
- (10) the purchase or contract is for property or services for which it is impracticable to obtain competition. . . .⁸

Under clause (16) any one or all of the military services can negotiate contracts for the use of civilian hospitals on the premise that it would be useful to have that facility available for use during a national emergency. It should also be noted that, in all likelihood, given the specialized services and well-defined geographic locations in which these services will be needed, "it is impracticable to obtain competition." Clause (5) would also expedite negotiating an agreement with a university

medical center, while clauses (4) and (7) enable an agency head to negotiate for physicians' services and medical supplies.

It should be noted that the term "facilities" as used here, and more particularly in the DPA and Executive Order 11490, does not pose any difficulty. The term has a broad legal definition, and, indeed, was intentionally used in the DPA for that reason. Hospitals were not specifically mentioned in the hearings or debates on the DPA, as most of the discussion centered upon whether or not it included farms and private homes, as well as plants, pipelines, and equipment.⁹ The DPA defines the term as anything but a farm, church, or private home.¹⁰

However, no government agency, including the Department of Defense, can enter into contracts which are contingent in nature or for which there are no appropriated funds.¹¹ It is, however, possible to enter into a contract in which certain services are provided in a given time period, and clauses giving DoD an "option" on hospital beds and specifying the conditions in the future under which the full system would come into operation can be a part of that contract. For example, a hospital could join CMCHS for a year, during which the hospital would promise to have at least two people trained to operate the system and participate in an exercise, for which the hospital would receive \$1,000. Also, as a part of that same contract the hospital could agree to receive and treat a specified number of patients and to perform the various other reporting and administrative functions

required by CMCHS at rates not to exceed the usual and customary charges for patients requiring such treatment as is necessary. This method assures that participating hospitals would have trained staff members and would participate in exercises, and at the same time ensures that these hospitals will not only be committed for mobilization, but will know the extent and terms of their commitment.

2. Proposed Terms of a Contract

In general, the contract with each facility should place as much responsibility as possible on the facility in order to reduce DoD's role in managing the entire system. That is, the contract should not only provide for the beds and routine hospital services, but should also require that the hospital coordinate physician staffing and provide other staff, management information, patient administration services, and communications in accordance with the guidelines and directives established by DoD. Though DoD may well prepare these systems, simplicity of operation requires that, to the extent possible, DoD not be involved in local or in-hospital matters.

Payment plans for the hospitals are another key element that must be studied and spelled out clearly in both the informal agreement and the contract. Usual and customary charges seems the simplest approach and is the method best received by the hospitals. Negotiated, special, or audited

rates are other alternatives, but they have little appeal to the hospitals. A CHAMPUS-linked payment program would require additional legislation. With the exception of CHAMPUS, any of these options could be used, so long as the terms are defined in the negotiated contract.

The agreement and the contract should also define clearly the terms under which this system will go into operation. A premature clearing out of beds could lead to loss of revenue on the part of the facility, while the premature arrival of casualties could lead to confusion, waste, and even loss of life. The triggering elements should be noted and discussed to ensure that all parties understand them. Though it is unlikely that this system would be used without a declaration of war or state of emergency, provisions should be made for activation by a statement from the Secretary of Defense in the event diplomatic considerations preclude the President from making such a declaration.

3. Informal Agreements

The purpose of creating the CMCHS is to make advanced preparations for war, but commitments may not be desired with all hospitals, especially if there are financial limitations. If contracts cannot be signed before they are actually needed, or if they are not desired, then some alternative mechanism such as an informal agreement could be prepared so that DoD planners may contact civilian hospitals, advise them of the program, and

enlist their cooperation for planning purposes. These informal agreements—which will describe the system, outline the duties and responsibilities of the hospitals, and outline payment plans and mechanisms—are not to be construed as government obligations. This can be accomplished by stating flatly in the agreement that its purpose is informative or descriptive and that it is to solicit interest without obligating either party. On the other hand, it may be possible to obligate the hospital to the system, while stating that the government is not bound until such time as funds are available and a contract is signed.¹² These agreements could be reviewed yearly, thus enabling both DoD and the facilities to assess their needs, situation, and interest in participation. Changes in occupancy rate, staffing, equipment, or size could influence either party in its desire to continue in the program.

4. Summary

The Department of Defense presently has the authority to enter into the types of contracts and agreements discussed. DoD requires no new authority to plan for and create a Civilian Military Contingency Hospital System. Creation of such a system, including the contracts and informal agreements discussed above, does not conflict with the prohibitions against implementation of emergency plans stated in Section 102 of Executive Order 11490. Proposed language for these agreements is included as Appendix B and C.

E. RELATED ISSUES

There are two particularly important issues which, though closely related to the basic authority questions, are not a part of them. These issues concern methods of protecting vital staff and potential problems of tort liability.

1. Protection of Physicians and Technical Staff

The current approach to CMCHS relies heavily on hospitals to provide physician services through the leverage of their individual hospital privileges agreements with physicians. This approach, which appears feasible, would alleviate the difficult task of DoD's negotiating with individual physicians.

However, the kinds of hospitals to be included in CMCHS and their normal physician staffing arrangements may cause a problem. Large teaching hospitals are most likely to participate. Some of these hospitals (especially at universities) tend to be centers of reserve activity, and all will have 2nd + year residents who, in time of war, will be most vulnerable to the draft.

Retaining key staff members and physicians at participating hospitals is essential to the functioning of the CMCHS. Provisions should be made in advance to protect both medical and nonmedical personnel.

Assignment of Reserves

Certain legal strictures limit assignment of reservists; in addition, military considerations will govern their ultimate use.

If at all possible, members of a reserve unit are currently required to report for mobilization with their unit, though they may be reassigned after that time. It may be necessary to revise this law or to use the general powers of the Secretary of Defense to create special reserve units or "cells" attached to a specific CMCHS hospital.³ It is also possible to have advance orders prepared assigning reserve physicians to CMCHS hospitals upon mobilization, but this would require considerable effort and planning. However, the impact on the strength and purposes of reserve and active duty forces would have to be evaluated carefully before final decisions are made.

Doctor Draft

Though new legislation is required for the Doctor Draft, there are plans for handling this matter if the need arises. Selective Service System regulations concerning any "Doctor Draft" prescribe that nonvolunteers in their "year of prime vulnerability"—defined as beginning "upon attainment of the first appropriate professional degree or diploma, or upon completion of one year of internship or equivalent training, whichever is later"—shall be called first in the order of their random sequence. The process will be repeated for those "within the first year after their year of prime vulnerability," then for those within the second year, and so on until the need is satisfied.¹⁴ Assuming that physicians would be inducted under this system, some method of exemption will need to be defined, especially considering the skills and experience of those in

their year of prime vulnerability. The Selective Service Act still provides that deferments may be given "on the basis . . . of individual status" to categories of persons whose "employment . . . or whose activity in . . . medical, dental, . . . or other endeavors as found to be necessary to the maintenance of the national health, safety or interest . . ."¹⁸ Such deferments could be given for a specified period of time and reassessed as needed.

It should be noted that the CMCHS plan could substantially impact on the pool of physicians available for mobilization. The Selective Service System would have to be involved in planning for such a system so that it would be aware of revised Armed Forces estimates for manpower in general and physicians in particular.

2. Physician and Hospital Malpractice

10 USCA §1089 (P.L. 94-464) immunized DoD medical personnel from suits for medical malpractice while acting within the scope of their duties. This law also exempts them from suits of assault and battery since these charges could be used as vehicles for malpractice suits. This Act followed similar acts immunizing physicians and medical support staff in the Veterans Administration (P.L. 89-311), the Public Health Service (P.L. 91-623), and the Foreign Service (P.L. 94-350). Under 10 USCA §1089 and the earlier laws, individuals acting in their official capacity may not be sued for malpractice, but tort suits may be

brought against the Government through the Federal Torts Claims Act.¹⁶

The rationale for the law was very clear. In Henderson v. Bluemink, in which a Service physician had been successfully sued for malpractice, the court noted specifically that the physician was liable for tortious acts, and that no existing statute could be construed as granting immunity.¹⁷ This decision and the success of the earlier laws prompted Congress to move quickly. The committee reports argued that this Act not only would provide protection for Service physicians and save them from costly malpractice insurance, but also would provide better medical service, since doctors would not feel they had to practice "defensive medicine."¹⁸ Slightly different versions of the bill passes in the House and Senate, but a conference committee was able to obtain a compromise without great difficulty.

It appears possible under existing procurement laws and regulations to obtain the use of civilian medical facilities and manpower to treat military casualties in wartime. Further, 10 USCA §4022 enables the Secretary of the Army to employ "as many contract surgeons as may be necessary" in an emergency. If such a contract surgeon is in charge of an Army hospital, "he has the same authority as a commissioned officer of the Medical Corps."

However, it must be noted that the manpower envisioned for CMCHS are to be obtained on a contractual basis under which neither the Government nor the Department of Defense would, in all likelihood, have day-to-day supervision of work or operations.

This distinction makes it impossible to apply the protection of 10 USCA §1089 to such contracted services.

The Federal Torts Claims Act specifically prohibits immunizing persons acting under contract with the Government. (See 28 USCA §1346(b), 2401(b), and especially 2671.) The focal point of the decisions discussed below is whether or not direct daily control or supervision is exercised according to the rules of *respondeat superior*, and the Restatement (Second) of Agency §220, "definition of Servant."

A number of cases of a nature similar to those that might arise if the Civilian-Military Contingency Hospital System were created and used have appeared in the courts. The best synopsis of the issue may be found in Logue et.al. v. U.S.¹⁹ In this case petitioners claimed that their son, a Federal prisoner housed in a county jail awaiting transfer to a Federal facility, hanged himself as a result of negligence on the part of the county officials who knew that the prisoner had suicidal tendencies. They argued that the county jail was under contract with the Bureau of Prisons to hold and transfer such prisoners, and that this county jail was thus a Federal agency or at least acting on behalf of one. Further, they argued that the sheriff's employees were employees of the Federal Government in that they acted on behalf of the Government. In both cases, they felt that the Federal Torts Claims Act enabled them to sue the Government.

The Supreme Court upheld the Appeals Court finding that there were no grounds for suit against the U.S. The Court noted that the contract with the jail:

clearly contemplated that day-to-day operations of the contractor's facilities were to be in the hands of the contractor, with the Government's role limited to the payment of sufficiently high rates to induce the contractor to do a good job.

Also, citing the Restatement (Second) of Agency, the Court observed that the degree of authority was a critical factor. In a broad statement they noted:

But we are not persuaded that employees of a contractor with the Government, whose physical performance is not subject to governmental supervision, are to be treated as 'acting on behalf of' a Federal agency simply because they are performing tasks that would otherwise be performed by salaried employees of the Government. If this were to be the law, the exclusion of contractors from the definition of 'Federal Agency' in 2671 would be virtually meaningless since it would be a rare situation indeed in which an independent contractor with the Government would be performing tasks that would not otherwise be performed by salaried Government employees.

Other cases make similar distinctions. In Prater v. U.S. (357 Fed. Supp. 1044) the Court noted that "employee has the same general meaning as servant," and that the most significant of the criteria in making this determination is the right of control over the worker. This right of control is an occasion difficult to determine, as in Becker v. U.S. (378 F. 2nd 319), but the basic principle remains that an employer must have control over the employee in the day-to-day performance of his work as it is being accomplished" (Shippey v. U.S., 321 F. Supp. 350). It should also be noted that even in cases in which the Government reserves the right to inspect the work and facilities

of an independent contractor there is no duty created and the Government does not assume responsibility for tortious acts. See U.S. v. Page, 350 F. 2nd 28; Kirk v. U.S., 270 F. 2nd 110; and Cannon v. U.S., 328 F. 2nd 763.

In the Logue case discussed above, petitioners cited the commentary to the Restatement (Second) of Torts §409, to the effect that there are numerous exceptions to the rule shielding the employer from tortious acts of his servants so that the rule should be applied only "where no good reason is found for departing from it." However, the Court argued that Congress specifically exempted liability for injury caused by employees of a contractor, and that this is a clear, definitive statement that cannot be abrogated. Only the definition of "contractor" may be debated.

However, it is not impossible to establish that a "contractor" is a Government employee. In the Becker decision mentioned above and in Lloyd v. U.S. (211 F. Supp. 750), persons working for the Government on what might appear to be a contractual (non-servant) basis were in fact held to be Government employees because of the particular nature of their work, and the supervision and control exercised by the Government.

Given the nature and aims of the proposed CMCHS, the fact that civilian physicians and others will be treating civilian patients at the same time they are treating military casualties, and given the appearance that little, if any, direct control or

supervision of day-to-day patient care activities can or would be exercised, it is difficult to see how the Federal Torts Claims Act could be applied in these circumstances. Thus, it does not appear that the hospitals and manpower operating under CMCHS can be protected from malpractice suits by existing statutes. If protection from malpractice is considered to be either necessary or desirable for implementation and operation of CMCHS, one alternative may be to amend 10 USCA § 1089 to include contract physicians and support staff in those instances in which they treat military patients.

However, a simpler and more viable alternative may be to require the hospitals in the system to provide their own malpractice insurance adequate to cover them and their employees. If the system is activated, the cost of such insurance may be included in the hospital charges for the period. Though the Government does not usually pay for such insurance, there is precedent for requiring it, as Government contracts currently stipulate that contractors must provide various types of insurance. Further, at present most hospitals probably have malpractice insurance, so that requiring it would pose no new burden.

F. RESOURCE ALLOCATION

The DPA not only established planning mandates for the various Federal agencies, but it established a means to monitor and make decisions about the allocation and use of national resources

in emergencies. This involves establishing or predicting the levels of need for certain resources and prioritizing conflicting needs if there is a shortage. Under this system the claimant agency prepares a plan for resource claims and submits it to the Federal Preparedness Agency, which acts as overseer and arbiter for the President. After seeking input from the resource agency and viewing the proposed plan in light of overall demands, the FPA approves the plan or suggest modifications. The authority for this process lies in Executive Order 10480.²⁰

At first reading it might well seem that the use of civilian hospitals and medical manpower would be included in resource allocation, and that any DoD plan in this area would be subject to review by the FPA and other agencies. However, careful analysis of the situation and the proposed system reveals that such is not the case, for a number of reasons.

The foremost reason that interdepartmental review and approval is not necessary is that the CMCHS is not intended to hinder the delivery of civilian health care; thus, the system does not place a burden upon resources or create a conflict in use. Avery Kolb, in his synopsis of resource allocation in limited war situations, notes that military requirements have a very high priority in the first place, and states that:

If there are no contending priority uses for the resources they (the military) require, they obtain by contract or requisition, and put to use, whatever items are needed to carry out their essential programs.²¹

Second, the Department of Health, Education and Welfare (DHEW) cannot be in conflict with DoD on this subject, since DHEW has no specific mission that would involve the use or control of these resources. That is, no DHEW program requires a certain number of hospital beds or the services of a certain number of physicians. Even if one assumes that DHEW speaks for the civilian sector, and that role is not clear at present, the CMCHS is not intended to create conflicts in use of civilian resources. Thus, this system would not require resource allocation review.

Third, there is nothing mandatory about establishing or enforcing a system of priorities or allocations, even in wartime. Rather, the policy is that the economy and society should not be disturbed unless or until the competing demands for a resource threatens the economy and/or the defense effort. In The National Plan for Emergency Preparedness, the basic guide to the Government response to emergencies, especially a nuclear attack, one of the most basic policies is that all responses to emergencies "must be taken without undue infringement of individual rights and with minimum disruption of the political, economic and social structure of the Nation." The continuation of "a basically free economy and private operation of industry, subject to government regulation only to the extent necessary to the public interest" is an important goal.

These remarks are amplified in the chapters on "Resource Management" and "Economic Stabilization."²²

Existing statutory authorities and existing organizations are to be applied and used before additional authority or new agencies are sought; controls are to be as selective as possible. Indeed, Section 2158 of the DPA itself stresses the need for voluntary agreements and consultation with civilian leaders to bolster civilian participation and production in national emergencies. Thus, if a CMCHS program were developed, it could be implemented without the DPA resource allocation as long as that implementation did not appreciably disturb the civilian sector.

The CMCHS has often been compared to the Civil Reserve Air Fleet (CRAF) program by which the Air Force obtains the use of civilian air carriers and crews in certain emergency conditions. Through this program the planes and crews come under military control to carry troops and cargo to specified destinations. However, because CMCHS does not use an entire facility or dictate what is to be done there, it is not analogous to CRAF. If there is any analogy between the two, it is that military personnel are put in the unused capacity of commercial carriers and sent to the regular destination of each flight. This lack of control and mild intrusion are the distinguishing characteristics of CMCHS.

The only time that the CMCHS would be subject to review for resource allocation is if the military demand for and use of civilian facilities began to dislocate the delivery of civilian health care. It would then be necessary for the FPA or DHEW to

bring this matter to the attention of the Office of Defense Resources or a similar body for a resolution of the conflict.

G. ALTERNATIVE AUTHORITIES

Thus far, this report has examined ways of obtaining support from civilian facilities without coercion. We found nothing to prevent a hospital from contracting with DoD to accept a certain number of patients for treatment under certain conditions; such a voluntary program can be created now. In addition, other non-voluntary means of obtaining civilian support were examined and are discussed below.

1. Issuance of Rated Orders

Rated orders are Government demands that a contract for goods or products needed for national defense be delivered before any other contract for the same goods or products. The highest priority order under the regulations adopted by the Business and Defense Administration is the "DX" rating, intended for use in obtaining products and materials in cases of extreme emergency. "DX" rated orders can be applied to either civilian or military orders, and they take precedence over unrated goods. Thus, it is conceivable that DoD could issue a rated order to a hospital to perform medical services.

There are difficulties in this approach, however. Even rated orders require some degree of cooperation from the party to whom they are issued; if the source and the recipient do not

share the same goal, delays and problems can arise. Furthermore, rated orders are usually issued to see that deliveries are rescheduled to meet defense needs, a situation which may have less precise meaning in the hospital scenario under consideration. Although an order could state that military casualties will be taken in preference to others, this raises questions of medical ethics and could lead to other problems.²³

2. Government Funding as a Vehicle to Obtain Government Use

The idea that the Federal Government has a claim to the use of a hospital or medical facility because it provided funds for the construction, improvement, or support of that facility has some logic behind it. The Hill-Burton Act provided Federal funds for the construction of hospitals. This Act states that:

. . . nothing in this title shall be construed as conferring on any Federal officer or employee the right to exercise any supervision or control over the administration, personnel, maintenance, or operation of any hospital with respect to which any funds have been or may be expended under this title.²⁴

This prohibition was twice challenged, but upheld.²⁵ It thus appears that no claim for use of all or part of the facility can be laid by the Government on the basis of this Act, since the introduction of military patients, the care and record-keeping they would require, and the potential dislocation or denial of service to civilian patients could be construed as "control over the administration . . . or operation" of the

facility. This prohibition is included in most of the other chapters of the Public Health Service Act.

3. Requisition, Condemnation, and Seizure

The authority to requisition and condemn was given to the President by the Congress in the original DPA. In general terms, Title II of the DPA permitted the President to requisition property and materials and to condemn property for use in the interest of national defense.²⁶ Language calling for just compensation and providing for appeals was included, but the basic fact was that the President could move rapidly and arbitrarily to obtain goods or properties he felt necessary to the national defense. Congress did have reservations about this particular title, as expressed in its report on the bill. The committee report in the House in particular noted that:

This power is needed only as a stand-by device, to insure that persons who hoard excessive quantities of material and refuse to make them available could be compelled to do so.

Further, they stated that:

The power to requisition is a drastic exercise of the sovereign power. The committee is desirous of reducing to the minimum the effect of requisitioning on the public.

The Senate examined the question of requisitioning in its hearing on the DPA and expressed many reservations about the Act and that title in particular. They noted that the title was based upon provisions of the Second War Powers Act, but

went well beyond that Act in authorizing the requisitioning of facilities and other items.²⁷

As far as can be determined, this authority was used only rarely, and Title II was permitted to lapse as soon as possible. On July 1, 1953, the authority was terminated, effective as of June 30, 1953. At no time since then has Congress reviewed this title.

Outright seizure of civilian facilities is unconstitutional, even in an emergency situation, as decided by the landmark case, Youngstown Sheet and Tube v. Sawyer, in 1952.²⁸ The Supreme Court decision argued at length that the President could not simply take over private property, even in the national interest, without authority being granted by the Congress. There has been no such grant of authority since the passage of the DPA.

4. Potential Legislation

A number of options to obtain the direct Government control of health resources are possible. For example, Congress could pass an act permitting DoD to requisition the required facilities, and even manpower, if necessary. Alternatively, Congress could make it possible for the Government in general, or DoD in particular, to control admissions to hospitals, thereby gaining access to those facilities for military casualties. In all probability the legislation would read much like Section 18 of the Selective Service Act of 1948 (62 Stat. 504), which makes it mandatory for producers of articles or materials for the

exclusive use of the Armed Forces to fill orders for this use before all others, and in particular requires steel producers to make steel available to defense contractors.²⁹

A classified Defense Resources Act containing language on a variety of topics such as "Manpower" and "Plant Seizure," does exist.³⁰ If it is felt that some additional authority might be required for this limited war scenario, it would be wise to propose additional language covering this situation. It must be remembered that, although the draft act is certainly a means to express concern and seek additional authority, it is up to Congress to pass any part or all of this act.

5. Summary

In passing the DPA, the Congress was wary of protecting the rights of individuals and the freedom of the economic system. In all probability the Congress would still be loathe to proceed hastily into any system of controls, especially one dealing with health care. Certainly plans and provisions for emergencies should be made. But given Congressional reluctance toward controls, expectations for broad authority should not be high. In addition, requisition, seizure, and other coercive policies, even if authorized by Congress, are acts which extract a price from the population to meet an emergency; that price might include the cooperation and goodwill of the civilian sector. If it is possible to create and implement CMCHS without additional authority, it may be best to do so.

H. CONCLUSIONS

The basic authority for the Department of Defense to create a system of linkages with the civilian community to provide for the care and treatment of wartime casualties already exists. The authority to plan for such a system is stated in Executive Order 11490, which draws its authority from the Defense Production Act of 1950. At the same time, DoD already possesses the basic contractual authority to enter into contracts and agreements necessary to implement such a system which it is required. The foundation for this system can be accomplished by using the contracts described above or letters of intent to describe the system. Though the planning for such a system is subject to the guidance and evaluation of the Federal Preparedness Agency, neither that agency nor any other can cancel or limit such planning. Since this system will not create a conflict or interfere with other agency missions, it need not be subject to the resource allocation process.

FOOTNOTES

¹ 50 App. U.S.C.A. § 2081 et. seq.

² 50 App. U.S.C.A. § 2082.

³ U.S. Congress, House of Representatives, Committee on Banking and Currency, Report to Accompany H.R. 4692, Extending the Defense Production Act of 1950, April 29, 1977.

⁴ U.S. Congress, Senate, Committee on Banking, Housing and Urban Affairs, Report to Accompany S.853, Defense Production Act Extension Amendment of 1977, May 11, 1977.

⁵ Executive Order No. 11490, Assigning Emergency Preparedness Functions to Federal Departments and Agencies, October 28, 1969.

⁶ Executive Order No. 11490, Section 401(20).

⁷ 10 U.S.C.A. § 2303

⁸ 10 U.S.C.A. § 2304

⁹ U.S. Congress, Senate, Hearing before the Banking and Currency Committee, July 24, 25, 26, 1950, p. 14.

¹⁰ Senate Hearings, July 24, 25, 26, 1950, p. 116.

¹¹ 41 U.S.C.A. § 11. Also note the reference to "appropriated funds" in 10 U.S.C.A. § 2303.

¹² Case law holds that correspondence of parties containing the elements of a transaction can in fact become a contract before execution of a formal contract document (Garner v Boyd, 330 F. Supp. 22). However, if all parties understand that a letter of intent is not a contract, and that performance of specified actions cannot be undertaken until a formal contract, then the parties are not bound by this letter. See Arnold Palmer Golf Co. v Fuqua Industries, Inc., 541 F. 2nd 584; Watson v Lehegh Val. Wood Work Corp., 198 F. Supp. 273; Mid-Continent Tel. Corp. v Home Tel. Co., 319 F. Supp. 1176; and Merritt-Chapman and Scott Corp. v Public Utility Dist., No. 2 of Grant Co., Wash., 237 F. Supp. 985.

¹³ 10 U.S.C.A. § 672 (c). Concerns mobilization of Reserves. See U.S.C.A. § 124 and § 138 concerning the creation of military units.

FOOTNOTES (Continued)

¹⁴ 32 CFR § 1680.5(b).

¹⁵ 50 App. U.S.C.A. § 468(h)(2).

¹⁶ 28 U.S.C.A. § 1291, 1346, 1402, 1504, 2110, 2401, 2402, 2411, 2412, 1671, et. seq.

¹⁷ 511 F. 2nd 399.

¹⁸ 1976 U.S. Code Congressional and Administrative News, 443.

¹⁹ 412 U.S. 521.

²⁰ Executive Order No. 10480, Further Providing for the Administration of the Defense Mobilization Program, August 14, 1953. For a detailed description and analysis of this process see Avery Kolb, Emergency Resource Management: Limited War (Washington, D.C.: Industrial College of the Armed Forces, 1969).

²¹ Kolb, 20.

²² Office of Emergency Planning, The National Plan for Emergency Preparedness, December 1964, p. 4-3.

²³ Conversation with Mr. Peniel Moed, Office of General Counsel, DoD, May 9, 1978, and Mr. Richard Donnelly, OSD, DoD.

²⁴ 60 Stat. 1041, August 13, 1946.

²⁵ Stanturf v Sipes, D.C. Mo. 1963, 224 F. Supp. 883, affirmed 335 F. 2nd 224, certiorari denied 855. Ct. 767, 379 U.S. 977, 13 L. Ed. 2nd 567. Also Nashville Memorial Hospital, Inc. v Binkley, Tenn. 1978, 534 S.W. 2nd 318.

²⁶ 50 App. U.S.C.A. § 2081

²⁷ U.S. Congress, House of Representatives, 81st Congress, 2nd Session, Committee on Banking and Currency, Report to Accompany H.R. 9176, The Defense Production Act of 1950, July 28, 1950, U.S. Congress, Senate, Hearings before the Banking and Currency Committee, July 24, 25, 26, 1950.

²⁸ 343 U.S. 579 (1952).

²⁹ 50 App. U.S.C.A. § 468.

³⁰ Kolb, 10.

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CHAPTER VI

AN IMPLEMENTATION PLAN

VI. IMPLEMENTATION PLAN**A. INTRODUCTION**

This Chapter presents the details of a plan to establish the elements of CMCHS. The plan is based on the premises that:

- the system is required;
- the authority for it exists;
- initial funding and staff are available; and
- a decision to implement awaits only approval of this plan.

The objective of the plan is to create the following organizational elements and linked capabilities over a three-year period:

	<u>BY END OF YEAR</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
Number of metro MMLO's established	10	30	40
Number of beds committed by contract	10,000	30,000	40,000
Number of beds covered by informal agreements	5,000	10,000	20,000
Estimated Cost (\$000)	\$800	\$1,625	\$2,200

These capabilities and elements will be established through a series of tasks and steps to be discussed in the next section of this Chapter.

B. THE TASK PLAN

The plan to develop the CMCHS is organized into six major tasks, as follows:

1. Create and authorize the system
2. Staff and organize key offices
3. Establish liaison and public information program
4. Negotiate agreements
5. Train appropriate military and civilian staff
6. Test and evaluate system.

Task 1: Create and Authorize the System

The initial task is to authorize CMCHS and provide for its implementation, operation, and oversight. This entails issuing a DoD Directive which establishes the proposed Office of Civilian-Military Contingency Hospital System and defines the parameters of its authority, duties, and relationships. This Directive, a proposed draft of which appears as Appendix E, will detail the authority for and relations of OCMCHS, and will empower the office to establish relations with civilian hospitals and to authorize contracts for participants in the system. The draft directive may require revision, and will need to be co-ordinated with various offices in DoD.

When the directive is signed, funding for the system must be defined, sought, and obtained. The amount of money requested will depend upon the size of the staff of OCMCHS, the need for assistance in establishing the system, and the number of hospitals involved. Minimal staffing guidelines are suggested

in Chapter IV, but these should be supplemented with consultants and a moderate travel budget. As much as \$250,000 may be invested in the organization of the system during the first year.

In summary, the steps involved in this task are as follows:

- 1.1 Revise and coordinate the draft DoD directive.
- 1.2 Issue DoD directive.
- 1.3 Obtain first year funding.

Task 2: Staff and Organize OCMCHS

The most important step in this task is the appointment of a Director for OCMCHS. An energetic person is required, one familiar with the military and civilian health care systems and the problem of linking them. Ideally, the person should be well respected by civilian organizations and the Services. The Director will carry out step two of this task, the selection of other staff members, who should share the same attributes as the Director.

The next step for the Director and his staff is to designate the MMLO metropolitan areas and rank them. The geographic areas in which the CMCHS should be located first have been described in Chapter IV. Final decisions on priority are subject to financial limitations, the envisioned role of the ASF, regulating procedures, potential availability of MMLO's, and other variables treated in Chapter IV. Before final MMLO selection, detailed research must be conducted to verify appropriate hospitals, the viability of local EMS operations or its alternative, and the details of establishing an MMLO. If

possible, data on hospital ownership, EMS organization, and key personnel in both organizations should be gathered so that persons eventually going to the field to discuss CMCHS with local officials and health professionals are aware of each situation. Although much of this work can be conducted without travel to the areas, as the time for a final selection and contract talks approaches, visits will be required to make contracts, initiate communications, and ascertain that decision data are current and accurate.

The ten or so areas that deserve immediate attention should be designated and studied as soon as possible. The second and third year locations can be selected later, perhaps in consultation with Service representatives. This is particularly true in the cases where there is little choice between locations of limited capability.

At the same time, a variety of materials must be prepared and, in some cases, approved by other offices. Draft contracts must be reviewed, possibly changed, forwarded to the General Counsel for approval, and coordinated with appropriate Contracting Offices before they can be taken to the field. Changes in the DoD draft war legislation must be prepared and coordinated. For example, a line item for wartime funding of the system must be added to the packet of draft legislation to go to Congress in the event of war. Instructions for disbursement against authorized billings must be prepared for fiscal officers.

In addition, the OCMCHS operations manual describing all facets of the system must be drafted and carefully reviewed.

Then, briefings for the military representatives of at least the initial ten MMLO's must be held. These briefings should provide full information about all aspects of the operation of the system from activation to payment and phase-out. The relationship of the MMLO to the Services, the VA, and the civilian hospitals must be clearly delineated, and the responsibilities and the extent of authority of each MMLO should be discussed. The operations manuals should be discussed, and changes or suggestions incorporated where necessary.

As an integral part of this organization process, periodic reviews should be held to determine whether or not work is proceeding on schedule and whether goals, targets, and budgets—especially for establishing MMLO's and bed quotas—are realistic. Delays in obtaining funds or approval of documents or in gathering information or holding meetings can impede the scheduled events. Since mid-course corrections and allowances are preferred to last minute crash efforts, flexibility should be built in to the plan.

In summary, the steps associated with this task are as follows:

- 2.1 Appoint the Director, OCMCHS.
- 2.2 Assign other OCMCHS staff.
- 2.3 Prioritize MMLO metro areas.
- 2.4 Assign MMLO staffs (as per priority).

- 2.5 Prepare CMCHS procedures manuals.
- 2.6 Convene organizational seminar for MMLO's/OCMCHS staffs.
- 2.7 Revise/formulate future plans (target areas, quotas, timing).
- 2.8 Revise/develop future budget.

Task 3: Establish Liaison and Public Information Program

A publicity campaign to advise national, State, and local professional organizations and individuals about the system, and obtain their approval of it, is necessary. The AHA and AMA deserve special attention.

Briefings and small meetings may be the most effective way to deal with professional organizations at all levels. These briefings must be organized and polished: the speaker should be an expert in the system; a high-level DoD official should be present to verify the significance of the system.

Articles in professional journals such as JAMA, Hospitals, AJPH are another means to advise health professionals of CMCHS. As certain geographic areas are designated as MMLO's, press releases might be issued so that an even broader audience could be informed. Endorsements from DoD officials, other government agencies, professional associations, and even interested Congressmen should be solicited and made known. Participating hospitals should receive a certificate or other form of recognition, and those which excel in the tests should receive a plaque or commendation.

In addition, interested government agencies such as FEMA and PHS should be briefed periodically, or upon queries, about the status of the system. Although the operation of the system is not intended to affect their programs, knowledge of it might influence other planning; certainly, it cannot hurt to keep them advised. The Surgeons General, ASMRO, and the VA, all of whom have an even keener interest in this system, should be updated frequently.

In summary, the steps associated with this task are as follows:

- 3.1 Establish liaison with AMA, AHA, and local hospital, physician and planning groups.
- 3.2 Prepare article(s) for publication in professional journals, and local press releases.
- 3.3 Establish liaison with FEMA, PHS, and VA.
- 3.4 Establish close working relationships with the Surgeons General, ASMRO, and OJCS.

Task 4: Negotiate Agreements

Once the contract language and letters of agreements have been approved by the General Counsel, briefings outlining the problem and the system should be prepared for delivery to hospital administrators, EMS officials, and local health planners or government officials. The briefings should be well-organized, clear and direct.

After a master schedule of briefings has been prepared, each briefing should be coordinated with the appropriate MMLO,

who can advise on the local situation and a local approach. Attendance by high-level hospital staff, if not the chief executive officer, should be encouraged. The assistance of the AMA, the AHA, and regional health or hospital associations would emphasize the importance of the meetings. After the contract and system have been presented to hospital legal staff and board of directors, time should be scheduled for questions and follow-up meetings with each facility. This may delay implementation, but is essential to ensure that each facility is knowledgeable about and happy with the arrangement.

As indicated before, contracts and informal agreements should have yearly review and renewal provisions in order to permit both parties to reevaluate them. From the DoD perspective, some standards should be established to approve hospital renewal. Some of the potential criteria are:

- interest in the system, judged on participation in meetings, training sessions, etc.;
- changes in numbers of beds, services provided, or staffing;
- effectiveness in test situations;
- need for facilities in the area.

In the first year of the system, renewal will probably be automatic, as there will have been little time to evaluate the results of the test or to assess changes. However, in subsequent years the renewal review should be started as early as the ninth month of the contract so that the system does not

lapse. Recommendations for renewal should come from the MMLO, based upon his familiarity with the hospital and the metropolitan area. Although the system may not be tested each year, heavy emphasis should be placed upon performance during exercises in evaluating a facility for renewal.

The steps required to accomplish this task are summarized as follows:

- 4.1 Revise and formalize contract and letter of agreement.
- 4.2 Prepare briefing materials.
- 4.3 Prepare schedule and coordinate visits with MMLO's.
- 4.4 Prebrief MMLO's and develop local approach.
- 4.5 Brief local hospitals and solicit agreements.

Task 5: Train Military and Civilian Staff

Effective training of both military and civilian staff members is essential to a smooth-working CMCHS. Separate training materials should be prepared for both military and civilian staff, as their roles are different. In general, because of the many tasks of the MMLO's, the military training will require more time and greater depth.

Scheduling the training sessions is a major task because of the need to economize on travel. One viable approach may be to train each MMLO during a two-day session and the corresponding hospital staff for two days, bringing both groups together on the fifth day so that introductions can be made

and an overview of the system presented. The operations manual should be discussed in detail, and comments or suggestions noted. Changes in procedure because of local circumstances should be made only rarely.

Though the same basic briefing may be used repeatedly, this phase of work will require a great deal of time and travel.

In summary, the steps associated with this task are as follows:

- 5.1 Develop training materials for MMLO staffs.
- 5.2 Develop training materials for CMCHS participant staffs.
- 5.3 Schedule training sessions.
- 5.4 Conduct training of MMLO staffs.
- 5.5 Conduct training of CMCHS participant staffs.

Task 6: Test and Evaluate the System

As the final stages of organization are being completed, a plan to test all parts of the system must be developed. While the model system worked reasonably well, the Nifty Nugget exercise of civilian hospitals lacked scope and breadth. Greater pains should be taken to provide more complete diagnoses with the "paper patients" and to find ways to obtain a better feel for physician participation, supply problems, and patient administration issues, in particular. The test itself should extend for some thirty days in order to understand long-term effects of the system on the hospital. (The hospitals in the Nifty

MAXIMUS

Nugget exercise were "filled" within a few days, and patient administration problems were scarcely tested.)

Scheduling the test and the preparatory briefing will not be easy. It is probably best to schedule a test during a certain period, and require all hospitals to participate regardless of local problems. Briefings should be conducted within a month of the test and, depending upon the number of locations involved, could place a great strain on staff resources.

During the thirty-day test, on-site visits by staff of QCMCHS should be conducted to observe test operations in the field. The hospitals' reaction to a thirty-day exercise is a major unknown, and may well be the reason to call for a shorter exercise.

The test results and participant comments should be analyzed carefully so that useful and significant changes can be implemented. A test of this size will require considerable time for review and analysis. A series of briefings for DoD officials, the Services, and CMCHS participants should be prepared to report the results of the exercise. Corrective training measures should be taken in cases where there are failings or problems.

In summary, the steps involved in this task are as follows:

- 6.1 Formulate a test plan and criteria.
- 6.2 Develop test materials.

- 6.3 Schedule and deliver briefings as required.
- 6.4 Conduct the test.
- 6.5 Evaluate test results.
- 6.6 Report test results to DoD, Services, and CMCHS participants.

C. SCHEDULE AND STAFFING

The implementation plan outlined above will require about three years to complete satisfactorily. It will initially require the services of at least six people full time, as well as occasional use of high-level DoD officials. A Gantt chart illustrating the scheduling of the six tasks over three years is presented in Exhibit VI-1.

D. BUDGET GUIDELINES

Until decisions are taken about the magnitude of linkage objectives, location of organizational responsibility, and degree of authority delegation, it will not be possible to develop a definitive budget. However, general guidelines can be suggested for implementing this plan. Initial staffing and dollar level guidelines for peacetime implementation and operation of CMCHS are outlined in Exhibit VI-2.

Activation and operation of the full CMCHS in wartime would substantially increase the requirement for both manpower spaces and dollars. Conservatively, the full operating system would require at least 200 spaces for MMLO's (at an average

Exhibit VI-1

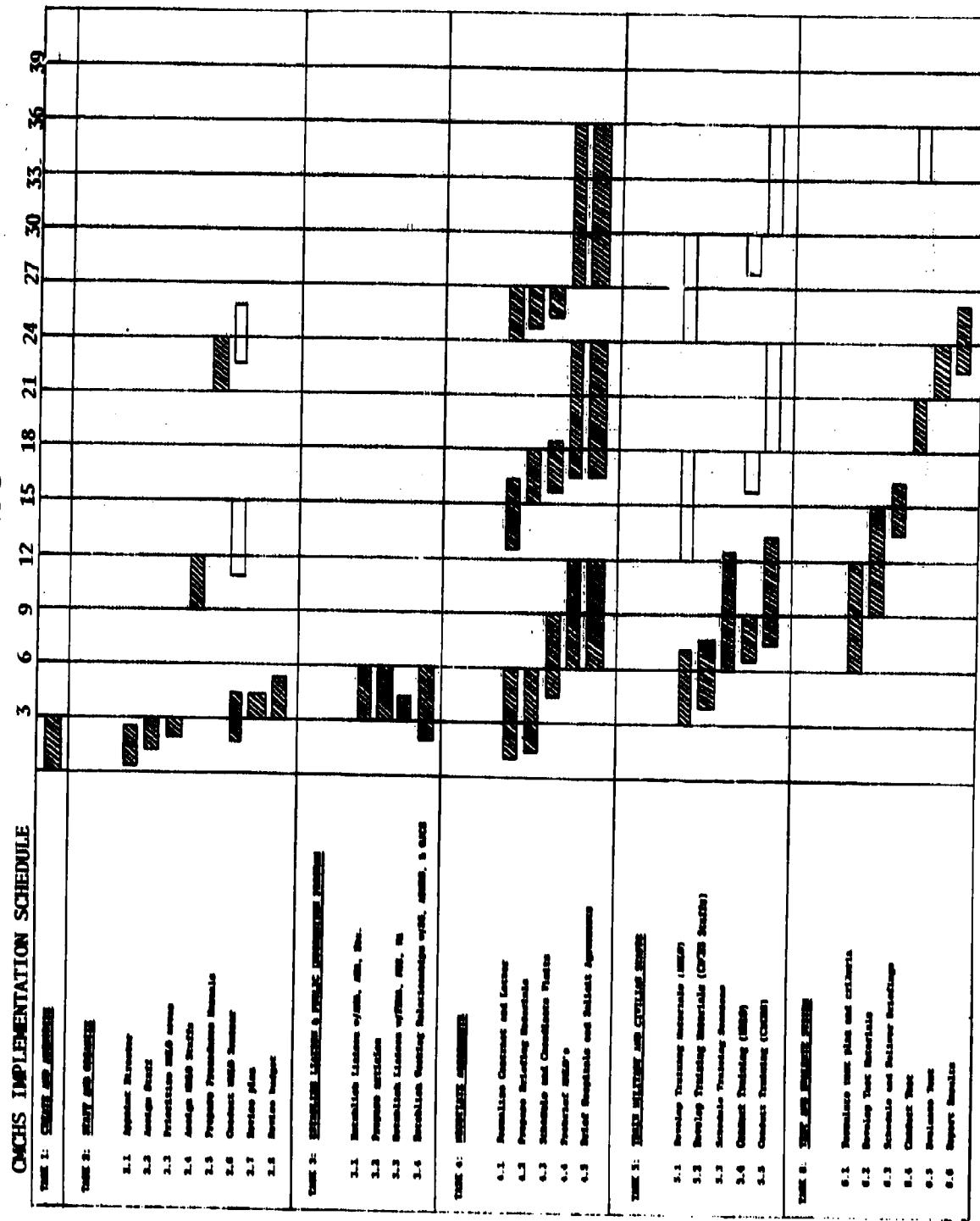


Exhibit VI-2
BUDGET GUIDELINES

	Year <u>1</u>	Year <u>2</u>	Year <u>3</u>
I. PERSONNEL SPACES			
A. <u>OCMCHS</u> (Number of Spaces)			
Director and Deputy	2	2	2
Support	<u>4</u>	<u>4</u>	<u>4</u>
	6	6	6
B. <u>MMLO</u> (a)	<u>2</u>	<u>6</u>	<u>8</u>
Total Personnel Spaces	<u>8</u>	<u>12</u>	<u>14</u>
II. DOLLARS			
A. <u>OCMCHS</u> (\$000)			
Salaries	\$ 200	\$ 215	\$ 240
Overhead and Travel	150	170	200
Contracts (b)	<u>400</u>	<u>1,115</u>	<u>1,560</u>
	750	1,500	2,000
B. <u>MMLO</u> (c)	<u>50</u>	<u>125</u>	<u>200</u>
Total Dollars	<u>\$ 800</u>	<u>\$1,625</u>	<u>\$2,200</u>

Notes:

- (a) Assumes one-fifth (1/5) man year per established MMLO.
- (b) Includes: (1) possible quid pro quo of \$10 per bed for up to 100 beds (or \$1,000) per participating hospital per year to cover administrative expense of contract; and (2) other contract support.
- (c) Assumes \$25,000 per space to cover salaries and fringes. Overhead cost to be borne by existing resources.

of five people per MMLO) and \$5 billion to cover hospital and physician charges.

E. CONCLUSION

Both CMCHS and this plan are complex. Although civilian facilities are to be compensated for what is essentially a contingency system, care must be taken to impress upon them the importance of this system. To this end, all briefings, meetings, papers, and paperwork must be well-organized, authoritative, and polished, and consideration must be given to civilian comments and suggestions. A friendly working relationship is the goal of this plan so that, if needed, a viable, responsive system can quickly and efficiently treat large numbers of military patients in an emergency situation.

F. ANCILLIARY STUDIES

In the course of preparing this study, a number of issues came to light which are pertinent but beyond the purview of this contract. They are mentioned here as suggestions for further study.

First, the role of the ASF's should be studied. These medical facilities clearly have an important function in the aeromedevac chain. But their state of readiness and prospective locations raise questions about their utility and effectiveness in a fast-moving wartime situation. Among the questions which require further study are the following:

- How much would the ASF cost to create, even in "mothballs"?
- How well would they functions in war given their size, location, and the anticipated casualty flow?
- Considering the possible shortage of evacuation aircraft, how would a domestic redistribution of casualties be effected in war?
- If ASF's are used, how should they be tied to the CMCHS communications system?
- If a decision is made not to use ASF's, are enhancements of civilian capability required?

Also, as mentioned earlier, if CMCHS is created, yet another player enters the field in the competition for medical manpower. Decisions must be made about protecting or using civilian medical manpower so that all the varied missions of both military and civilian organizations can be executed.

Identification of allied health professionals for the draft similarly needs close attention so that scarce, trained resources can be made available for urgent medical purposes.

Finally, some planners fear that if a limited war escalates to general or nuclear war, moving patients to large urban areas may jeopardize them and defeat the aim of the system. This criticism may be valid, and requires further study.